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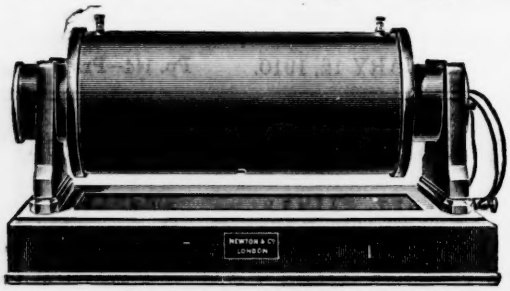

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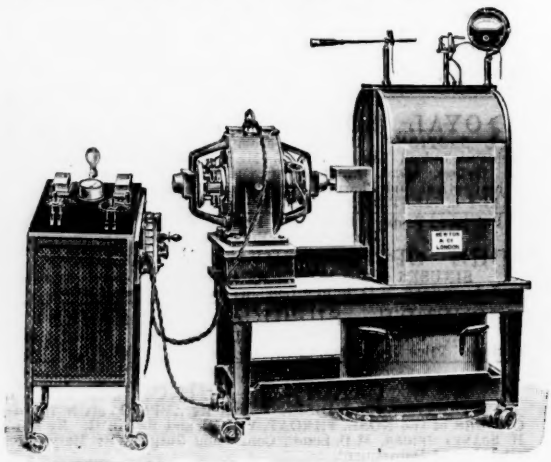

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A Lecture
ON
THE EARLY DIAGNOSIS OF CANCER OF THE STOMACH.

Delivered before the Hunterian Society on Jan. 12th, 1910,

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MR. PRESIDENT AND GENTLEMEN,—When you did me the honour of inviting me to deliver one of the Hunterian Lectures before this society, the subject of the early diagnosis of carcinoma of the stomach immediately occurred to me as one of the most pressing questions of the day; one, too, which it seemed to me would be especially interesting to the members of this society. It was not until afterwards, when I began to put together the notes that I had formed upon it, that I fully realised that, however interesting this subject might be, it is one of the most difficult that I could have chosen. For by early diagnosis I mean diagnosis during the period in which complete removal of the disease is still possible, while there is still a hope of being able to effect a permanent cure; before the disease has reached the stage in which surgery is as helpless as medicine; and I must ask you therefore to be as lenient as you can in passing judgment on my effort.

SUCCESSFUL OPERATION DEPENDENT ON EARLY DIAGNOSIS.

Before I begin there are certain facts I should like to mention, as they illustrate more clearly than any arguments I can use the extreme importance of this subject. So far as the male sex is concerned, cancer affects the stomach more often than it does any other organ in the body. Nearly 22 per cent. of all the cases of cancer that occur in men begin in the stomach. In women the proportion is not so high owing to the frequency with which the generative organs and the mammary glands are attacked, but the aggregate number is quite as great. At its beginning cancer of the stomach is absolutely and entirely local. No case of cancer of the stomach has ever been cured except by operation. In nine cases out of ten complete removal is perfectly possible if the attempt is made early enough. If the disease begins at the pylorus or along the lesser curvature, as it nearly always does, the whole glandular area that drains it can be removed with it. Secondary deposits in other organs, such as the liver, do not make their appearance until comparatively late. Unless special complications are present (the cause of which is nearly always delay) the operation is not a difficult one, and need not take more than three-quarters of an hour. The mortality, in the hands of those who are accustomed to abdominal surgery, is practically dependent upon the condition of the patient at the time. The shock, contrary to what one would expect, is exceedingly slight; and the after condition of the patient, so far as digestion is concerned, is so satisfactory that I have often wondered whether the stomach is really such an important organ as it is popularly supposed to be. The sole thing that is required is to make the diagnosis soon enough, before the disease has spread so far as to render removal impossible. That must be my excuse for bringing this subject before you to-day.

CLASSIFICATION OF CASES.

Pathologically, cases of cancer of the stomach may be classified in various ways. With this I have nothing to do, as I am only concerned at present with the clinical point of view, and looking from this there are only two groups. In one the growth is latent, manifesting itself only by its general constitutional effect until the disease is far advanced, when it may suddenly demonstrate its presence in a way which cannot be mistaken or overlooked. In the other the growth has been preceded for months, and even for years, by symptoms the significance of which has either not been recognised or else has been ignored. Of these two, the former is much the smaller. It does not comprise 10 per cent., and according to some not even 5 per cent., of the total number. Moreover, as the importance of early diagnosis is becoming more and more recognised and fresh methods of investigation are being evolved it is becoming smaller still. But a few such cases do occur. Quite recently I was called in to see a gentleman, about 45 years of age, whose health and vigour had been failing in an unaccountable way for some months past. He had lost weight and strength. His appetite had failed, especially for meat, and his digestion was not good. The amount of free hydrochloric acid had been estimated after a test meal and had been found deficient, but under treatment it had risen again, with corresponding improvement in appetite, until it was all but normal. There had not been any tenderness or pain in the epigastric region. He had not been sick. There was no tumour to be felt nor any enlarged glands. The fæces, which might have given some evidence, had not been investigated. Then, quite suddenly, there was a profuse attack of hæmatemesis with melæna, from which the patient, though he lived some little time, never really recovered. From the first there had been a strong suspicion of malignant disease. The contents of the stomach had been examined on more than one occasion to see if any clue could be found. But until the hæmatemesis occurred a diagnosis such as would justify an abdominal exploration was not possible, and then it was too late. The growth in these cases is usually situated on a part of the wall of the stomach that is far removed from either orifice, so that it does not interfere with the mechanics of digestion. It springs from the mucous surface, which has no sensory nerves in the ordinary sense of the term, so that for a long time, until, indeed, it involves the serous coat, it does not cause pain or tenderness. If it lies on the lesser curvature it may remain concealed beneath the liver until it has attained a comparatively large size. And though the appetite and the digestive power of the stomach may be impaired by the gastritis that accompanies such a new growth, there is nothing to distinguish this special form of gastritis from that which occurs from other causes. In other words, it is not possible to make a diagnosis in such a case during this stage of the disease, simply because there are no symptoms to act as guides. There may be a strong suspicion of malignant disease, perhaps even of malignant disease in some abdominal organ, and especially in the stomach, but unless something more definite can be found operation in such a case at such a stage, with nothing further to act as a guide, can only be called a roving commission, not an exploration, and condemned. Fortunately, as I have said already, such cases are not common, and it is to be hoped that with new and improved methods of investigation they will become less common still.

The other group of cases, those in which the growth has been preceded for months and even for years by symptoms directly referable to the stomach, is far more numerous. For many years past I have made a point of carefully inquiring into the early history of every case of carcinoma of the stomach that has come under my notice, and almost without exception there has been a definite account of characteristic gastric irritation at some period or other. In upwards of 60 per cent. the patients have already been told at one time or another that they were the subjects of gastric ulcer, and in quite half of the rest the symptoms have been of such a character and have persisted or come back again time after time in such a way that there was certainly something far more serious than a mere functional disorder. I have already mentioned one instance in which there was no history of pain, tenderness, vomiting, or severe dyspepsia until the disease was far advanced. The growth seemed to have originated in an uninjured and a healthy stomach, and I have met with a few more with a similar lack of symptoms, but I cannot be too emphatic in recording my conviction that such cases are the exception, that nearly all cases of cancer of the stomach are preceded by definite evidence of gastric irritation, and more than half by the characteristic symptoms of chronic gastric ulcer.

RELATION OF CANCER OF THE STOMACH TO ULCER.

On *a priori* grounds this is all that could have been expected. So far from there being any improbability in such a suggestion, the improbability is all the other way. Cancer may conceivably originate in an organ that is healthy so far as we can tell; but it is infinitely more likely to originate

in one that has been injured, and in the part that has been injured; and the more frequent the injury the more likely it is to follow. In every other organ of the body chronic ulceration is one of the strongest predisposing causes of cancer that we know. It would be the most extraordinary exception if it were not so here. Evidence pointing in this direction has been accumulating quietly for a long time past. At first it was merely a pious expression of opinion that such might conceivably be the case. Then a few instances were recorded in which this transformation had certainly taken place. Soon the number increased, and when general attention was called to it the proportion of cases in which this sequence of events may be considered proved rose in the most extraordinary manner. A few years ago the number in which it was supposed to have occurred was estimated by Fenwick at only 4 per cent. At Kiel, during the period from 1872 to 1891, it was no higher than 14. In the following nine years it rose to 26. Later Mayo, out of 180 cases, estimated that as many as 54 per cent. originated in this way. According to Moynihan it is true of no less than 72 per cent., while Ssapeshko, as quoted by Jedlicka, maintains that upwards of 90 out of every 100 cases of carcinoma of the stomach are preceded by something in the nature of an ulcer. Nor does this rest merely upon the results of clinical investigation, which might be more or less open to discussion. It has been proved by the study of the pathology of the living, a method of inquiry which has only been rendered possible by the enormous strides that abdominal surgery has made within the last few years. So long as carcinoma of the stomach was only seen in the post-mortem room it was impossible to say why or from what it had arisen. By the time the disease had proved fatal, all trace of any pre-existing ulcer had long since been destroyed, and there was nothing but the curious coincidence of locality shown by ulcers and carcinoma alike to suggest that the one could be in any way a precedent condition in the development of the other. The extraordinary change of opinion with regard to the proportion of cases that originate in this way is coincident with, and due to, the advance which has been made of late years in gastric surgery, which has enabled the beginnings of disease to be seen and not merely those stages which are no longer compatible with life. The conclusions of post-mortem pathology must be revised in the light of what has been ascertained and proved during life, and there can be no doubt which of the two is the more likely to be correct.

EARLY SYMPTOMS.

It is no longer, then, a matter for discussion: it must be taken as proved that malignant disease of the stomach in a very large proportion of instances starts either from some ulcer that has been allowed to persist until it has become chronic, or from some cicatrix that has been injured and irritated for years. The question is how and by what means we can find out the first beginning. To be of any use the diagnosis must be early, definite, and capable of being acted upon at once. There is no difficulty when the supra-clavicular glands are enlarged so that they can be felt, and when the patient is anæmic and has lost a stone or more in weight; but then it is useless. The diagnosis must be made from local signs and symptoms while the disease is still local, or it is no use making it. Even in such an organ as the tongue, where ulcers and scars can be seen and felt, it is often a matter of the greatest difficulty to decide whether a sore is malignant or not. As may be imagined, in the case of the stomach it is far worse.

The ordinary test, the one that is usually appealed to before a surgeon is allowed to see the patient, is the failure of a plan of treatment that has given a certain degree of relief when tried before. Nothing could well be more unsatisfactory or more injurious than this. The treatment has never cured the patient. At the best it has only relieved the symptoms, and that for a time. Now they have returned again, rather more marked than they were before, in a patient who has grown older, nearer the age when carcinoma is most common, and who is scarcely so well nourished as he used to be. All excellent reasons for not trying the same line of treatment again. It is thoroughly illogical to do so; but men are so curiously optimistic in these cases, being inclined to see only the things they wish to see, and patients, who know nothing whatever about the question, are naturally so disposed to try anything and everything before agreeing to an operation, that the trial is made; the same line of action followed out again; an immense amount of the most precious time lost, and the diagnosis never made until all chance of curing the patient is long since past and gone. It is a cardinal rule in surgery that diagnosis, whether the case is one of carcinoma of the stomach or not, should precede treatment and not follow it. It is a confession of ignorance to look upon treatment as an aid and help to diagnosis, and no case of cancer of the stomach will ever be cured if the patient has to wait for an operation until after the trial and failure of every line of treatment that is recommended because once, when the disease was of a totally different character, it gave a certain measure of relief.

Whether the disease begins *de novo* in a stomach that is apparently healthy, or whether it starts from the basis of some old ulcer, the first thing to arouse the suspicion of the patient and make him seek advice is a change in the functional activity of the stomach for which he himself can find no explanation. It may show itself in many ways. If the patient has always been strong and healthy, leading an active vigorous life, it may be a sudden loss of appetite, associated perhaps with a special distaste for meat; or an attack of indigestion which does not pass off in a day or two, as it should, and for which we cannot assign a reason. There may not be the acute stabbing pain, running through from front to back, so characteristic of ordinary dyspepsia, but there is a constant feeling of fulness and discomfort after meals, with a nauseous taste in the mouth, and a tendency to sickness. With this there is a great deal of flatulence and very often there are eructations of offensive gases. The first thing noticed, in short, is an attack of gastritis or of gastric irritation, such as is not uncommon in many people, and which would not deserve such attention if it were not for one disquieting feature. It occurs quite suddenly, in a person about middle age, who has never been troubled with attacks of indigestion before without any obvious reason to account for it, and it does not get well as it should. It is this, as a rule, which impels a patient to seek advice; and given this history and these symptoms there should be as little delay as possible in making a thorough examination without waiting for loss of flesh or other symptoms to set in.

The same thing is true of that much more numerous class of patients whose history renders it practically certain that they have suffered at one time or another from ulcer of the stomach. There is the same evidence of gastric irritation, but, as a rule, it does not attract attention even so soon. They are so accustomed to attacks of a somewhat similar character that the additional distress caused by the irritation that accompanies a new growth is scarcely noticed by them. The symptoms are much the same as those from which they have suffered so often before. It is not until the attack has lasted some little time that it begins to dawn upon them that it is more severe and more persistent than usual and that it would be as well to seek advice about it. Indigestion is so common that the earliest stages of carcinoma are often allowed to pass by before the medical attendant is given the chance of making a diagnosis. In any such case where there is a definite history of past attacks, if a thorough examination has not been made already because of the presence of a chronic ulcer it should be now without further delay, because of the possibility that cancer has become grafted on to it. *Every case of chronic ulcer of the stomach is a potential case of carcinoma;* and I can only express the hope that before long every such case that has resisted one thorough course of treatment properly carried out, and still gives rise to the well-known train of symptoms, will be promptly handed over to the surgeon for complete investigation, if necessary by operation. I have not the slightest doubt that this would often prevent the later development of cancer.

Of all the symptoms that are present in these cases, perhaps pain is the most prominent, and it is certainly the one that most often makes the patient seek for further advice. In chronic ulcer the stomach is more or less at peace when it is empty. The pain may be acute as soon as food enters the stomach, or it may not come on until one or two hours later, and then not infrequently the ingestion of more relieves it for a time; but, as a rule, when the stomach has emptied itself, one way or the other, there is some degree of comfort. As malignant disease develops, this disappears. Persistence of pain always suggests cancer. Severity I have found of no use as a guide, for patients vary so greatly in their estimate, their power of endurance, and their

descriptive ability. The pain of chronic ulcer may be as acute as that of cancer, but one or two have told me that the character of the pain has changed, and that instead of, or sometimes in addition to, the sharp cutting pain to which they have been accustomed there has come a steady burning pain in the epigastrium, varying in intensity at times but never quite disappearing. The locality of the pain may be of great service in indicating that of the cause, but it says nothing with regard to its nature.

The degree of local tenderness gives little or no information. The viscera themselves are not sensitive to ordinary pressure, so that any sudden increase of tenderness can only mean that the irritation around the disease has spread more widely to other structures near, and probably involves the parietal peritoneum. As all ulcers in the stomach, malignant or not, are surrounded by a zone of inflammation, this does not help. It merely means that the disease is spreading.

Nor is the presence or absence of a tumour of any great assistance. Every attempt should be made to ascertain whether there is a tumour by examining the stomach in all positions of the body, and when it is empty and when distended with air, but even a large tumour may remain quite out of reach under the left lobe of the liver. Moreover, it does not follow that a tumour of the stomach, even when it is at the pylorus and of recent detection, is therefore malignant. I have operated in several such cases without removing the tumour, and as the patients have lived for as long as six years after gastro-enterostomy had been performed there can be no question that the growths were of inflammatory origin. One case, however, was of very great significance. For four years the patient did well, put on flesh, and was able to do his work and digest his food. Then he began to fail, and six months later when I saw him again there could be no doubt that malignant disease had broken out. Gastro-enterostomy will not always prevent this.

Interference with the motor functions of the stomach is only of help in the diagnosis of malignant disease when it occurs under certain special conditions. It must be of rapid development. Pyloric obstruction and hour-glass contraction are equally, if they are not actually more, common in chronic ulcer than they are in cancer; but as a rule they last for years, judging by the symptoms, and the patient cannot assign even an approximate date for their appearance. It is not their presence which makes them of importance in connexion with this question, but the rapidity of their onset. Obstruction at the cardiac orifice, which is not so common, and which manifests itself by very different symptoms, must be judged separately. As a matter of fact, it seldom occurs except by extension in cases of epithelioma of the lower end of the œsophagus.

CHEMICAL AND OTHER METHODS OF DIAGNOSIS.

A study of the vomiting, on the other hand, in a doubtful case may help a good deal. The quantity is not of much importance. That is controlled mainly by the degree to which the stomach has become enlarged, and pyloric obstruction is even more common in simple than it is in malignant disease. But the frequency with which vomiting occurs, and the examination of what is brought up often furnish valuable information. In the case of a simple ulcer the frequency depends largely upon the amount of food. What is brought up consists of the food, more or less digested, mixed with the secretion from the stomach. If the quantity is large and has been retained for some time, it has often undergone a good deal of fermentation and may have a peculiarly sour, nauseating odour. If small, it consists of little more than semi-digested food. In cancer, on the other hand, though vomiting may be caused by food at any time, it frequently occurs independently; and the vomit, even when small, is often most offensive, grumous, and mixed with blood. The offensive character is probably associated with the deficiency in hydrochloric acid, in consequence of which there is little or no check to decomposition, and is therefore of secondary importance. But the frequent presence of blood, even in microscopic quantities, is most significant. Careful examination should be made for this in every suspicious case, and if it is found to be present frequently, no matter how small the amount, there should be no further delay.

I attach very great importance to the detection of occult or minute quantities of blood in the vomit or the fæces. The former, of course, is always inspected carefully, but this is not enough. If there is the least suspicion of the presence of malignant disease, every specimen must be examined chemically. The fæces are even more important. Blood is said to have been present in no less than 107 out of 124 cases. For this special precautions must be taken. The bowels should be well opened, and then for three days the patient must not be allowed to take any meat, or anything that might result in the production of hæmatin. The mouth, too, must be carefully examined, so that there is no chance of bleeding from any of the teeth; and, of course, there must be no instrumental interference with the stomach in any way. Unless there is a trained nurse in attendance the collection is always a matter of difficulty, but it should be insisted upon, and it can usually be managed by giving the patient a wide-mouthed stoppered bottle and directing him to pour some glacial acetic acid over what he has collected. It is the first step in the analysis, and it makes the patient realise the importance of what he is doing. Alone, by itself, without any other evidence, the frequent presence of minute quantities of blood in the vomit or the fæces is enough, not only to justify, but to compel an exploratory operation.

If there is no blood in either vomit or fæces and the other symptoms are merely sufficient to arouse suspicion but not to form a diagnosis an attempt must be made to obtain more exact information by other methods. The first of these is the estimation of the amount of free hydrochloric acid that is present in the gastric juice an hour after some simple test meal has been taken. This, though it is not so valuable as it was once thought to be, should never be omitted. In many cases of chronic ulcer of the stomach the quantity of free hydrochloric present during digestion is considerably increased. In most cases of cancer it is diminished, and in some it may fall so low as to disappear altogether. When this occurs lactic acid and the Oppolzer-Boas bacillus make their appearance in its stead.

Unfortunately this test, from which a very great deal was expected, is not so much a test for the presence of carcinoma as for the onset of gastritis caused by the carcinoma; and this may set in early or late in the course of the disease or may never set in at all, and may vary very greatly in intensity under the effect of treatment which could have no influence upon the carcinoma itself. Free hydrochloric acid may be present in the gastric juice in normal quantity throughout the whole course of a case of cancer. It may diminish for a time, and then, under appropriate treatment, rise again to the normal, and even beyond it. The diminution, as I showed upward of ten years ago, may occur in the most characteristic way when the cancer is situated in some other organ, and the stomach is not involved at all; and though in some instances the diminution occurs fairly early in the course of the disease, and therefore when the test is positive is of considerable value in diagnosis, a negative result is worth nothing and should never be taken into account. It is an unfortunate thing that patients, who seem to find a difficulty in realising the importance of this test, not infrequently take strong objection to it, mainly on sentimental grounds. As, however, it is very commonly necessary to administer an anæsthetic in a doubtful case of this character for other reasons, advantage can be taken of the opportunity to obtain at least one specimen for analysis.

Examination of the thorax and abdomen with the X rays, after the patient has been given two or three ounces of carbonate of bismuth mixed with bread and milk or porridge to swallow, is another method that should always be tried in a doubtful case. But this again, like some of the others I have mentioned, is of more use in diagnosing distortion or dilatation of the stomach due to the contraction of some old scar than in distinguishing simple from malignant ulceration. It succeeds best, of course, with a thin patient. Until recently the whole examination had to be carried out with the screen, which requires a very considerable amount of practice before any useful result can be obtained. The shadow thrown by a bolus of food mixed with carbonate of bismuth passing fairly rapidly over the screen is rarely so sharply defined or so distinct as it is represented in illustrations. Recently, however, I have had some excellent results with the instantaneous method of photography. If two or three plates are taken in rapid succession they can be studied quietly and sometimes a great deal of valuable information obtained. The position of the greater curvature (the patient, of course, is standing up) and of the pylorus can be ascertained with a fair degree of certainty, and, what is much more important,

any slight deviation from the normal outline can usually be seen. I have on several occasions diagnosed the existence of an hour-glass contraction of the stomach in this way and verified it by subsequent operation, but I have never yet seen the surface of a malignant ulcer coated over with a layer of the bismuth, and so presenting a blackened patch, after all the rest of the bismuth had passed on, as has been described by some observers.

Many attempts have been made by examining the blood in various ways to find some criterion which might indicate the outbreak of cancer. Could such be found, it would solve many difficulties, not only in connexion with malignant disease of the stomach, but with that of other organs also. But to be of any real value in the early diagnosis of cancer this blood test must be certain, easy of application, and, what is far more important, must be such that it can be relied upon to indicate the presence of cancer at its earliest appearance, while it is still local. It is of little or no use if it merely indicates the presence of a malignant growth after it has infected the general system. It must be capable of indicating the first beginning, and it has yet to be proved that such a thing is possible. Cancer, at the first, is a purely local affection, and it is during this stage that it must be diagnosed and treated if the patient is to be cured.

Most of these methods—such, for example, as the failure in digestion leucocytosis and the increased pseudopodial energy of leucocytes in the presence of cancer serum—do not fulfil these conditions. Deaver speaks well of Kelling's hæmolytic test, using hen's blood, but I have had no experience of it. According to him, no less than 64 per cent. of cancer cases gave a positive reaction, and in six out of the nine that failed the patient was already in a state of advanced cachexia. The degree of hæmolysis seems to diminish as debility increases, so that this may be of some use as an early test.

The importance of the antitryptic index of the serum rests on different grounds, as its value is chiefly negative. It has been shown by Mr. E. C. Hort, who made use of chemical methods, and by Mr. H. W. Bayly, who, following Dr. F. L. Golla, estimated the index from the difference in the electric conductivity of the mixtures he employed, that the power of inhibiting tryptic digestion is much higher in the serum of patients who are the subject of cancer than in that of those who are healthy, and that this is nearly invariable. It occurs in 96 per cent. These results, too, agree very closely with those of observers who have employed other methods. This, therefore, must be admitted; but as the index is raised quite as much in many other complaints, in all infectious diseases for example, it cannot be taken as proof of the presence of cancer. The value of this test rests, as Mr. Hort points out, not in the rise of the index in cases of cancer, but in the absence of rise in cases that are not cancer. Given a case of ulcer of the stomach, in which the diagnosis, whether it is simple or malignant, is still in the balance, the absence of a rise in the antitryptic index of the serum is evidence in favour of the former. But, as with most other blood tests, it is not yet certain whether this one gives a result which can be relied upon in the early stages of the disease, when the diagnosis is most difficult and of most value, while the growth is still localised. If it only succeeds when the general system is already affected, it would rather negative operation than encourage it.

THE VALUE OF THE GASTROSCOPE.

The recent improvements in the construction of the gastroscope that have been effected by Dr. H. S. Souttar and Dr. Theodore Thompson render it exceedingly likely that in the use of this instrument we have at last the means of making an early and a sufficiently accurate diagnosis. As it sometimes is impossible to distinguish a simple from a malignant ulcer, except by a long and careful microscopical examination, it is not to be expected that inspection through a gastroscope will invariably give a definite answer. There will always be cases in which there is a certain amount of doubt. I am convinced, however, that there will not be many in which inspection through a gastroscope, aided and supplemented by the other methods of clinical investigation I have already detailed, does not give a sufficiently definite answer to render the line of treatment that is advisable absolutely beyond question. The instrument itself need not be described here. For the details of its gradual evolution from the form of gastroscope originally made by Leiter from the designs of Mikulicz, I must refer you to the papers published by Dr. Souttar and Dr. Thompson. It is sufficient for my purpose to-day to state that by its use the whole of the mucous membrane lining the interior of the stomach, except a small portion immediately around the cardiac orifice, can be inspected and examined deliberately without any further risk than that entailed by passing an œsophageal bougie while the patient is under an anæsthetic. The stomach should be emptied first and washed out by means of an ordinary tube. (If a simple test meal has been given before, advantage may be taken of this to obtain a specimen of the gastric secretion for the purpose of analysis.) The patient lies upon a flat table with a small cushion beneath the shoulders. The mouth is kept open with a gag, a full-sized bougie is passed first as a precaution, and as this is withdrawn the end of the instrument is carefully guided by the finger into the pharynx. Once past the cricoid cartilage, where there is always a little difficulty, the instrument slips down almost of its own weight until the cardia is reached. Here it usually stops again for an instant, and then slips onward into the stomach. The pump is then attached, the stomach inflated, the light switched on, and the nose of the instrument rotated and deflected until the whole of the interior has been systematically examined. The colour of the mucous membrane, pale or bright according to the amount of blood that is circulating in the stomach, the difference in the pattern of the cardiac and pyloric portions, the arrangement of the folds into which the lining membrane is thrown, and the regularity with which they converge towards the pylorus are apparent at once. Ulcers, erosions, and petechial hæmorrhages stand out distinctly. The least break in the even surface, the slightest change in the shape or direction of one of the folds, or the least thickening of the mucous membrane can be seen at once. At the same time the opportunity may be taken of ascertaining the shape and size of the stomach by percussion and by transillumination—darkening the room so that the illuminated area can be seen through the abdominal wall. Up to the present the use of the gastroscope has been so restricted that it is not possible to say what important consequences may not follow from it. Already it has been of the greatest service in confirming the diagnosis of cancer in cases in which there were only grounds for suspicion. Judging from the way in which the cystoscope has revolutionised the surgery of the bladder there is every reason to hope that when the gastroscope becomes better known and used as a matter of routine in every suspicious case a great deal of the most precious time of all will be saved, and a constantly increasing proportion of cases of cancer of the stomach will be diagnosed at a stage when there is still a prospect of the whole of the disease being removed.

CONCLUDING REMARKS.

When all is said and done, it still remains that the diagnosis of cancer of the stomach, at a sufficiently early date to render complete removal probable if not certain, is a problem that is not yet solved. The difficulty in the first instance is with the patient. When cancer occurs in a man whose digestion has previously been good, and only manifests itself by the vaguest and most general symptoms, no diagnosis can be made. The opportunity is not given. The patient does not think for an instant that there is anything seriously the matter, and dismisses it all from his mind as an attack of indigestion. Even when he does seek advice, it is usually some time before he will submit to a thorough examination under an anæsthetic, and by that time it is often too late.

The chances of early diagnosis ought to be brighter when cancer breaks out in a patient who has for years before been subject to attacks of gastric irritation. The possibility, nay, more, the probability, of its occurrence in such a case is always present before our eyes. The most active predisposing causes of cancer that we know are ceaselessly at work; and the slightest change of any kind, the least difference in any one of the ordinary symptoms, ought at once to suggest that cancer has already broken out, and that there should not be a moment's further delay. But here again the transition is so gradual and imperceptible, and the patient is so much accustomed to attacks of indigestion in all its forms, that the actual beginning of the disease is very seldom noticed. The earlier symptoms do not manifest themselves sufficiently plainly to attract the patient's attention

and no steps are taken to find out, even though the question is one of literally vital importance, until the disease is so far advanced that the patient cannot help being alarmed.

The one great hope lies in the prevention of cancer by the efficient treatment of the condition which so often precedes it and which is undoubtedly a predisposing cause for it. Now that the interior of the stomach can be inspected with safety and certainty no anatomical lesion, whether a definite pathological diagnosis can be made or not, should be allowed to remain as a breeding spot for cancer. It does not matter whether it is an ulcer or a scar that has been left by one. It is sufficient that the symptoms caused by it persist or if they do disappear return again later. The persistence of symptoms of gastric irritation or their recurrence after a thorough course of medical treatment, loyally carried out, means that those measures are useless, that it is no good trying them again under similar conditions, that there is some reason why they are useless, and that an attempt must be made to ascertain what that reason is without further delay. In every such case, without waiting for the suspicion of cancer, a thorough examination of the interior of the stomach should be made with the gastroscope. If there is an ulcer that has become chronic or a scar that is constantly being irritated or any other lesion, it should be dealt with surgically without further delay or trial of measures that have already been proved futile. Every such ulcer or irritated scar in the walls of the stomach is not only a source of present misery to the patient, wrecking his life, and rendering him unfitted for either work or pleasure, but it is the strongest predisposing cause of cancer that we know. The question is a very simple one. The patient must be told that the choice lies between an immediate operation, with a reasonable prospect of a comfortable life afterwards on the one hand, and, on the other, life-long misery with more than the possibility of an outbreak of cancer at the end.

A CASE OF MALIGNANT DISEASE OF THE APPENDIX VERMIFORMIS TREATED WITH EMANATIONS OF RADIUM.

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AND
LEWIS G. GLOVER, M.A., M.D. CANTAB.

THE case to be described seems of sufficient interest to merit publication for more than one reason. In the first place, the lesion was a primary growth in the appendix; in the second, the patient survived eight years from the commencement; and in the third, it was, as we believe, the first case to be treated by a solution of the emanations of radium. The use of radium emanations was first suggested by Sir William Ramsay and mentioned by one of us (L. B.) in a lecture at the International Congress of Arts and Sciences in St. Louis in September, 1904.

In the winter of 1900 the patient, a man, at that time aged 59 years, commenced to suffer from a looseness of the bowels with a tenderness over the region of the cæcum and slight rises of temperature. Although he had been abroad in China for many years there was no precedent history of any illness bearing upon his complaint at this time, and, indeed, his life-history was a very good one so far as the record of illness was concerned. The diarrhœa, which at first was supposed to be of simple character, persisted, and in the early beginning of it nothing abnormal in character was felt in the abdomen or per rectum, and the kidneys were found to be healthy. The diarrhœa, which was not severe, persisted, however, and the patient was seen by Dr. S. J. Gee and the late Dr. George Thin. The former found some abnormal dulness on percussion just above the anterior superior iliac spine, but no tumour was discovered at this time. It should be observed that the patient was of stout build. The diagnosis was obscure, but the case did not seem to tally quite with a chronic appendicitis, and it was thought to be one of colitis or fæcal ulcer.

Early in 1901 the present reporters saw the case together, and it was then possible to feel on deep pressure inside the anterior superior iliac spine a small elongated tender swelling. This swelling was suggestive of a chronically inflamed appendix or else of a malignant growth in the appendix; and this latter suggestion was then made by one of us (L. B.). It was decided that operation should be performed, and Sir Frederick Treves, who agreed with the fact of the presence of the swelling, opened the abdomen on a day early in February, 1901. The appendix was removed. It was found to have a considerable enlargement of the distal end, the proximal end attached to the cæcum being healthy. The whole organ was removed, the tumour at the end being shelled out from the iliac fossa to which it was bound down by adhesions; and this bed from which it came was scraped with a sharp spoon. A gauze plug was inserted down to this spot and the abdomen was closed. The patient did not take the anæsthetic very well, but made a good recovery, the gauze being removed on the second day after the operation, and there being no unusual complications afterwards. It was suggested from the macroscopic appearance of the tumour that it was merely an appendix with a bulbous end due to chronic inflammation. The appendix and tumour, however, were sent to Dr. F. W. Andrewes at St. Bartholomew's Hospital for report as to its nature. He reported: "The mucosa shows only chronic inflammation, but infiltrating the whole thickness of the muscular coat on one side I find cavities full of colloid material and lined by a very perfect columnar epithelium. ..... I have no doubt that it is a columnar-celled carcinoma with early colloid change. I cannot imagine anything but malignant disease infiltrating the muscular coat like this. It may very well be attacking the appendix secondarily. There is no connexion in my sections between the new growth and the mucosa."

During the next two years the patient remained well, but occasionally he suffered from pain in the right iliac fossa. This became more persistent in 1904, and in March of that year he was seen by us together. Some thickening was then detected lying deeply in the iliac fossa beneath the scar of the old operation wound. Throughout the summer of 1904 good health was maintained, but in October the tenderness again became more marked; he was, in spite of this, able to go shooting in December. On the 12th of that month commenced a severe illness, there being pain in the right iliac fossa and right flank, with rises of temperature at night, and a tumour easily palpable and situated in the right iliac fossa.

In January, 1905, Mr. C. B. Lockwood met us in consultation, and while it was recognised that a recurrence of the old growth had shown itself, it was also seen that there was some septic inflammation within or about the tumour. By this time the patient was severely ill and the tumour was growing rapidly in size, the temperature being continuously raised.

On Jan. 7th Mr. Lockwood opened the abdomen through the scar of the old wound and examined the growth with a view to ascertain if any relief could be given by its removal or by short-circuiting the bowel. The growth was found to be hard, nodular, and solid, and quite irremoveable, and as the patient was very ill and could not stand a prolonged operation the abdomen was simply closed and nothing further was done. The colon, it was noticed, passed over the summit of the tumour and was adherent to it, but was not obstructed by it. Convalescence from the operation proceeded but slowly and was hampered by the presence of congestion of the bases of the lungs and consequent cough, so that some of the superficial stitches in the abdomen gave way. The patient's condition getting slowly worse, it was decided to try the effect of injections of cinnamate of sodium, and these were given at intervals, without any appreciable effect, from Jan. 17th to Feb. 10th. The tumour was continuing to increase in size during all this time, and the temperature was hectic in character; further, the skin over the flank became œdematous and red, and a mass formed on the right thigh just below Poupart's ligament, which mass was also nodular to the touch. One of us (L. B.) at this time suggested that a solution of radium emanation should be given, and this was obtained by the kindness of Sir William Ramsay, who provided us with the quantities we required. One cubic centimetre of water which had absorbed radium emanations for 10 days was injected into the subcutaneous fat on two successive days (Feb. 11th and 12th). On Feb. 15th the last injection of cinnamate of sodium was given. On the 20th the mass in the groin gave way and fœtid green pus poured out in very large quantity, as much as four ounces coming away at one dressing.

No tube was inserted as the discharge was quite free. A smaller collection formed above Poupart's ligament a few days later and this was opened under cocaine anæsthesia, about one ounce of pus being evacuated. This healed up in 72 hours, the incision having the appearance of healing by first intention. In three weeks' time the big abscess had completely stopped discharging and the track leading into it closed. It was at the time a matter of comment by those who saw the case that so big an abscess should have closed up so quickly. The temperature dropped, the œdema and inflammatory thickening around the tumour diminished, and eventually disappeared; strength was regained, the patient going downstairs on March 19th and out of doors on the 22nd. From the time of the second dose of radium emanation, an injection of it of 2 cubic centimetres was given regularly every eight days, the patient having altogether 18 injections. In July the patient left for Scotland, where he was able to shoot and fish, and 1 stone 9 pounds in weight were gained in all from the time of the second operation. In October, 1905, the tumour was still palpable and was adjudged to be about the size of a Tangerine orange.

In November, 1905, another abscess formed very quickly and pointed just above the crest of the ilium. This was opened under gas and the track was found to pass into the iliac fossa. About eight ounces of greenish pus were evacuated. A rapid recovery ensued on this occasion, the febrile reaction lasting only some five or six days. When all the inflammatory reaction had subsided the tumour was thought to be smaller in size than it had been for a long time previously. In December the patient went to India, and three months later while travelling an abscess again formed and burst from the flank. On his return from the trip the tumour was easily palpable, and there seemed to be a tendency to delay in the passage of fæcal matter through the cæcum at the site of the growth.

In November, 1906, an abscess was again opened in the same situation as before in the right flank, and, as on the other occasions, health and activity were restored so completely that those who saw the patient could hardly believe him to be the subject of carcinoma. Indeed, at this time as well as subsequently more than one suggested that actinomycosis or some similar disorder might be the cause of the trouble rather than carcinoma. The late Professor D. J. Hamilton of Aberdeen and the Clinical Research Association were, however, unable to demonstrate any other than pus organisms in the discharges obtained from the sinus. It was thought wise to keep this sinus open from this time, and in May, 1907, it was found to pass some seven inches inside the tumour, which, though very slightly moveable, extended well beyond the scar of the original operation towards the middle line. Sir A. E. Wright, who examined the discharge, found a small bacillus which he was unable to grow on any of the usual media, but he found no evidence of actinomycosis.

In June, 1907, the condition of affairs not having improved, Mr. J. Bland-Sutton laid open the sinus and cautiously scraped the growth. The scrapings were separately examined by Dr. Andrewes, pathologist to St. Bartholomew's Hospital; Mr. A. G. R. Foulerton, director of the Bacteriological Department, Middlesex Hospital, and late director of the Cancer Research Laboratory; and Mr. G. L. Eastes, late director of the Clinical Research Association, and pronounced by each to be carcinomatous in character. A fæcal fistula formed, but closed up in the course of a few days, and in August the patient went to Scotland. While there a further attack of inflammation occurred, the fæcal fistula re-formed, and grave illness ensued; recovery, however, took place, and in October the patient was back in London, and he slowly regained health, so much so as to be able to attend to his duties.

During the next four or five months a fair measure of health was maintained, but in the spring of 1908 the attacks of inflammation and septic poisoning became more frequent. It had been suggested that a short-circuiting operatiof should be done, but seeing that there was no obstruction on the bowels and that the tumour could not be removed it was not pressed upon the patient, who at this time absolutely declined further operative measures. During the summer of 1908 several attacks of septic poisoning with fæcal leak at the sinus occurred, and in December, 1908, the patient gave his consent to a short-circuiting operation upon the advice of Mr. Bland-Sutton and Mr. R. J. Godlee.

Mr. Bland-Sutton operated on Dec. 8th, a loop of the ileum being transplanted into the sigmoid flexure. It was found that there was considerable adhesion between the lesser bowel and the growth. A track which had formed in the right thigh and which contained gas was opened. For the first 24 hours the patient did well, and then it was noticed that the bed was becoming wet, and it soon became evident that urine was being discharged from the old sinus. Death occurred on the next day. A necropsy was permitted, and Mr. C. Fletcher (acting on behalf of Mr. Eastes) who performed it reported as follows:—

The body was thin, but not emaciated; there were two open, suppurating wounds in the upper part of the right thigh and one in the right loin. A vertical, incised wound was present in the left side of the abdomen, through which a satisfactory junction of the ileum with the sigmoid flexure had been made; the ileum was anastomosed about 3 feet above the ileo-cæcal valve. In the right iliac fossa was a large, hard mass, about the size of the closed fist, to which were adherent several coils of small intestine. This mass had also infiltrated the tissues behind the peritoneum up to about an inch below the twelfth rib and extended over the brim of the pelvis below. The tissues in the right iliac region were so matted together that it was impossible to distinguish the precise anatomical relations. In the centre of this growth was the large intestine in the region of the ileo-cæcal valve. Here the intestinal wall was entirely replaced by the new growth which presented a large, ragged, dirty-looking ulcer which was exuding a colloid material. This ulcer communicated in two places with pieces of small intestine and backwards through a wide sinus with the opening in the flank above referred to. A connexion was also established with the wounds in front of the thigh. The bladder was entirely free from the growth and showed nothing abnormal. The right ureter as it reached the pelvic brim became embedded in the mass of the growth and was lost. It was unfortunately divided in the removal of the mass and no actual communication with ulcer could be traced. The right kidney, though small, showed nothing abnormal. No secondary deposits were felt in the liver and this organ was not enlarged.

This case is reported in its early stages as Case 58 in "Appendicitis" by Mr. Lockwood, p. 175 (1906).

It may be of interest to mention the result of the same treatment by injection of a solution of radium emanation in two cases which were under the care of one of us (L. G. G.), also in 1905. One of these was a patient sent for treatment by Mr. F. Swinford Edwards, who was suffering from carcinoma of the rectum of very rapid growth; the other was one of carcinoma of the right superior maxillary bone; both the patients were men. In neither case was any real improvement in the growths observed, but in both of them an undoubted increase in the amount of secretion from the ulcerated surface of the tumours was noticed during the 24 hours subsequent to the administration of the emanation; this was usually injected in the loins or between the shoulders; thus is suggested the possibility that the drug may have a selective affinity for tumour tissue, even when injected into the body at some distance from the growth.

When the nature of the disease is thoroughly known it is much more easy to combat it, as one sees very markedly in the case of infective diseases such as malaria, plague, and phthisis. But even when the pathology is unknown, remedies may sometimes be employed with great advantage empirically, like quinine in ague and mercury in syphilis, remedies which were equally effective before we knew that these diseases depended upon the presence of microbes in the body. We do not yet know the pathology of carcinoma or sarcoma. It is considered by many as probable that they also are due to microbes. No remedies have yet been found to act upon cancer in the same specific way as quinine and mercury in ague and syphilis, and the dreadful character of malignant disease makes one ready to grasp at anything offering a chance of cure. The application of radium to malignant disease at or near the surface has already been followed by results which, even if they are not all that can be desired, may yet be termed fairly satisfactory. Coley's treatment with the mixed toxins of a streptococcus and bacillus prodigiosus is also very promising, but unless used with very great care the treatment is not without risk. The result of treatment by radium emanations in the case that we describe is little short of miraculous and its failure in other cases was disappointing. It is to be noted, however, that the water which had absorbed radium emanations in the case of our first patient had been absorbing radium emanations for ten days. Later on, Sir William Ramsay discovered that these emanations apparently underwent destruction or alteration in the water, so that after exposure for five days it contained as much of the ordinary radium emanations as after ten days. It appears possible, however, that the active substance in the first injections was not the radium emanations themselves as given off from the metal, but the substances into which they were transformed after solution in the water.

At all events, the case seems to show that there is a possibility that radium emanations may be useful in cases of inoperable cancer and which cannot be affected by radium applied from the outside.

THE VARIABILITY OF THE LESIONS IN POLIOENCEPHALOMYELITIS.

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UNDER the name polioencephalomyelitis are included a group of cases of acute affection of the nervous system which are frequently epidemic and attended by a variety of symptoms dependent on the part of the nervous system affected. The causal agent of the disease is still unknown in spite of the closest investigation of several large epidemics. Flexner has reproduced and demonstrated the lesion in the spinal cords of animals quite recently, and the experiments have been successfully repeated by other observers.

An endeavour has been made to obtain some idea of the relative frequency of the lesions produced by this disease as it occurs sporadically in and around London. The records of the Hospital for Sick Children, Great Ormond-street, were used for this purpose.

During the last ten years about 400 cases were seen as in- and out-patients, and of these 48—i.e., 12 per cent.—showed some evidence of an encephalitis. Only 11 cases gave evidence of lesions both in the brain and spinal cord. These cases have an important bearing on the question of the etiology of certain forms of acute encephalitis, and serve to establish their common origin with simple poliomyelitis.

An analysis of 171 cases is given below:—

A.—*Spinal Cord Lesions.*

Paralysis produced.	No. of cases.	Site of the lesion in the cord.	Remarks on the cases.
Groups of muscles of one leg.	44	Lumbar enlargement.	The anterior tibial group was oftenest affected.
Muscles of both legs.	36	Lumbar enlargement bilaterally affected.	In some cases accompanied by incontinence of urine.
Both legs and one arm.	7	Lumbar enlargement and cervical segments 5, 6, 7, 8.	In these cases the degree of paralysis was at first severe, and then gradually subsided, leaving certain groups permanently affected, or, as in a few cases, no paralysis at all.
Both arms and one leg.	1	,, ,,	
Both arms and both legs.	15	,, ,,	
Muscles of one arm.	13	Cervical segments 5, 6, 7, 8.	
Muscles of both arms.	1	,, ,,	
Abdominal muscles.	8	Lower dorsal and upper lumbar segments.	The recti were most affected; evident wasting in three cases.
Intercostal muscles.	7	Diffuse dorsal lesion.	Unilateral shrinkage of chest wall resulted in three.
Erector spinæ.	7	Diffuse dorsal and lumbar lesion.	These all recovered enough to hold the head and body erect. A few showed wasting of the neck.
Muscles of neck.	16	Diffuse cervical lesion.	
Diaphragm.	2	Cervical segments 4, 5.	Transient weakness is not very uncommon.

Paralysis of the muscles of the neck and back was generally associated with some other lesion, such as paralysis of the limbs or facial paralysis. The diaphragmatic paralysis was unilateral and in one case was demonstrable before the X ray screen. Paralysis of the sphincters appears to be rare. Incontinence of urine was present in 13 children over 2 years of age, and in four of these it was associated with paralysis of both legs, and the lesion was probably in the lumbar region. Hyperæsthesia was a common early symptom, but only in one case was anæsthesia present and the lesion approximated to a transverse myelitis in the dorsal region as both legs were also paralysed.

B.—*Brain Lesions.*

Symptoms produced.	No. of cases	Probable site of lesion.	
Tongue protruded to one side.	1	Hypoglossal nucleus.	Four of these cases died from respiratory or cardiac failure.
Difficulty in swallowing.	3	11th and 9th nuclei.	
Difficulty in articulation.	3	,, ,,	
Paralysis of soft palate.	1	,, ,,	
Sudden deafness.	1	Terminal cochlear nuclei or the inferior corpora quadrigemina.	
Facial paralysis.	15	7th nucleus (pontine).	
Internal squint in one eye.	6	6th ,, ,,	
Internal squint in both eyes.	3	6th ,, ,,	
Facial anæsthesia.	2	5th sensory nucleus.	
Ophthalmoplegia externa with double optic neuritis.	1	Superior corpora quadrigemina and external geniculate bodies and 3rd and 4th nuclei.	
Nystagmus.	6	Cerebellar lesion with small-celled perivascular infiltration about the dentate and roof nuclei.	
Ataxia.	8		
Intention tremor.	3		
Slow rhythmic tremor	9	Cerebello-rubro-spinal tract.	
Hemiplegia.	7	Rolandic (motor) cerebral cortex.	
Transient central blindness.	1	Occipital cerebral cortex of both hemispheres.	

The cases of bulbar paralysis are rare, although there is little doubt that some which produce sudden death go unrecognised. The seventh nucleus lesion appears to be the commonest form of encephalitis inferior. It is an important link in establishing the common etiology of polioencephalitis superior and poliomyelitis, as both have been associated with a seventh nucleus lesion. The slow rhythmic tremor, which was present in nine cases, resembled that described by Dr. Gordon M. Holmes in *Brain*, 1904, as associated with organic disease of the cerebello-rubro-spinal track. The presence of nystagmus and ataxia on the one hand, and sixth and seventh nucleus lesions on the other, in occasional association with this tremor, indicate cerebellar and widespread pontine involvement and lend support to the above localisation made by Dr. J. Miller in *Brain*, 1909. In three of these cases there was temporary loss of speech, possibly due to the speech centre being cut off from the nuclei presiding over articulation.

The cerebellar cases with acute onset, occipital headache, ataxia and nystagmus, showed a tendency to complete recovery. In two of these there was loss of speech, and in two a slow slurring speech developed, whilst, apart from the unconscious cases, five had transient incontinence of urine for no obvious reason. In 7 cases of hemiplegia, in children from 1 to 5 years of age, it seemed likely that the cause was a polioencephalitis superior. The onset of the feverish attack during the summer months was associated with unconsciousness in 3 cases and a fit in 3 cases. In 2 cases a right-sided hemiplegia was associated with loss of speech lasting four weeks.

I have to thank the physicians to the hospital for their kind permission to collect these cases.

A FATAL CASE OF ACUTE ANTERIOR POLIOMYELITIS.

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CASES of acute anterior poliomyelitis in young adults going on to a rapidly fatal termination are not common. For this reason, and because the symptoms are not precisely typical, I have thought it well to report the following case.

The patient, a boy, 16½ years of age, had always enjoyed good health and was apparently robust. During the summer vacation he had indulged rather too vigorously in sea-bathing, sometimes entering the water four or five times a day. On Oct. 10th he had headache and a rise of temperature to 104° F., for which no cause could be found. He was given a mercurial purge and put to bed, and on the following day (the 11th) the temperature had fallen to

normal. As there was no return of fever, and he continued to feel quite well, he returned to school on the 14th. Subsequently it was ascertained that he felt slight rheumatic pains in the arms during the remainder of the week. On the 17th the boy complained of headache and of pain in the back of the neck. The pain radiated up from the first dorsal spine over the occiput; the headache was frontal. The temperature was 101·6°, and there were vomiting and constipation, with a very coated tongue. Later in the day there were pain and weakness in the left arm, which soon after midnight was completely paralysed.

When the patient was seen on the 18th there was complete loss of power in the left shoulder and upper arm, and the forearm and hand preserved only a very slight power of flexing and extending the fingers. There was no change in this condition throughout the progress of the case. There was no alteration of sensation in the limb and the reflexes were absent. The left naso-labial fold was not so well marked as the right, and subsequently slight muco-purulent discharge developed in the left eye, but I was never able to say definitely that there was left facial paralysis, nor could the boy's relatives detect any change in his appearance. A faint extensor plantar reflex was obtained on the left side, but no weakness of the legs could be detected at any time, though later in the case there were twitching and constant restless movement of both lower extremities. There was some difficulty in micturition, but this passed off and no incontinence or retention was observed throughout. The deep and superficial reflexes below the level of the dorsal enlargement were normal. Photophobia was a prominent symptom, but there was no optic neuritis, nor did it develop subsequently. The vomiting, headache, and constipation persisted, but the pain over the upper part of the spine, which had not been relieved by aspirin, phenacetin, or counter irritation, was apparently stopped by the application of an ice-bag. Any attempt to flex the head forward on to the chest awakened the pain afresh. The temperature during this and the subsequent day varied between 103° and 104°, the pulse was 120, and the respirations were 30.

During the night of the 18th the shoulder and scapular muscles of the right arm became paralysed; the upper arm, forearm, and hand muscles were intact. During the two following days the fever kept high, and at intervals there was delirium. The photophobia and pain in the neck were less marked, but there was a pain in the lumbar region extending round the abdomen. There were also epistaxis and constant restless movement of the legs. The sphincters were not affected. On the 21st the temperature fell to normal and remained so. The respiration became for a short time slower, but was altered in character, being purely costal in type, whilst the reversed movement of the abdominal wall pointed to paralysis of the diaphragm. From this point the mental condition became worse, fæces, and later on urine, were passed into the bed, and the twitching and restlessness of the lower limbs were more observable. The patient died on the sixth day of the illness from gradual respiratory failure. On the day of his death there was no paralysis of the lower extremities, no loss of sensation, or alteration of deep or superficial reflexes, except a doubtful extensor reflex on the left side. The pupils were equal in size and contracted; there was partial control over the bladder.

The points of especial interest are: the existence of a brief, sharp febrile attack one week before the onset of the illness; this fact, coupled with the nature of the pyrexia and with the occurrence of epistaxis, would point to the disease being of infective origin. The existence of slight facial paresis has been noted before in cases of infantile paralysis. It is generally transitory, and indicates that the condition is not a purely local spinal affection, but that other parts of the nervous system may be affected. There is a steadily accumulating weight of evidence to show that the direct exciting cause of acute anterior poliomyelitis attacks the whole nervous system with a special predilection for the grey matter (owing perhaps, as Buzzard suggests, to its greater vascularity). The resulting symptoms will, of course, vary according to the site of the lesion; sometimes they are cerebral, sometimes spinal, and sometimes neuritic. In the cerebral group there may be further variations according to the relative severity of the lesions in the cortex or in the basal ganglia. It is clear, therefore, that to regard the disease as spinal in its distribution is to take too limited a view; it should rather be thought of as a general infection of the nervous system.

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CHRONIC SPHENOIDAL SINUS DISEASE.

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THIS communication is based on a total of 17 patients on whom I have operated for disease of one or of both sphenoidal sinuses during the past 18 months. In most of them the posterior ethmoidal cells were also involved, but in the number are not included cases in which the sphenoidal condition was associated with antral or frontal sinus disease, nor those where the general nasal condition was one of atrophic rhinitis with ozæna. In most of these patients, as well as in others who did not submit to operation, an ophthalmological examination was obtained, and in this connexion my thanks are due to Dr. John Rowan, the consulting oculist to the Glasgow Ear, Nose, and Throat Hospital. In all the disease was of the chronic variety and in nine it was limited to one side. Though several acute cases have come under my care in none of them have I found it necessary to operate, cure being obtained by nasal douching with or without lavage of the sinus itself. I propose first shortly to relate the chief facts in connexion with these cases, and then, with them as a text, to make some observations on sphenoidal sinus disease.

CASE 1.—A male, aged 50 years. Nasal obstruction and nasal discharge for some months. Disease of left sphenoidal sinus and of left posterior ethmoidal cells. Ethmoidal cell above and external to the sinus. Eyes—Right: disc pinkish and full; marked venous pulsation. Left: disc pale, suggesting optic atrophy, which is borne out by further examination. Result: Nasal condition cured; sinus quite dry; patient feels quite well. Eye condition progressive on the left side.

CASE 2.—A male, aged 39 years. Discharge from nose of one year's duration, sore throat, hoarseness at times, deafness and noises in right ear of two weeks' duration, severe giddiness for same length of time. Ears—Right: membrane shows cicatrices from former middle-ear suppuration; quite dry; watch 0, Rinné +. Left: membrane shows adhesive processes and fibrous changes in tympanum; watch 6, Rinné +. Vertigo severe, with tendency to fall to right side. Quite unable to walk without assistance. Nystagmus on looking to either side, worse on looking to right, horizontal in direction and strongest movement towards side to which eyes are turned. No nystagmus when looking straight forward. Caloric reactions: Cold water in the right ear does not appreciably alter nystagmus in either direction. Warm water in right slightly increases nystagmus to right; does not appreciably change nystagmus to left. Cold water in left ear abolishes nystagmus to left and much increases nystagmus to right. Warm water in left ear abolishes nystagmus to right and much increases nystagmus to left. Patellar reflexes increased, no ankle clonus; right plantar reflex increased but still flexor. Nose: Right sphenoidal and posterior ethmoidal disease. Right sinus contained polypi, granulations, and pus in outer and upper part. At the anterior part of the supero-external boundary the granulations could be seen to be pulsating. A probe gently pressed against this part allowed some drops of pus to enter the sinus. Eyes: Neuritis in both. Course: This patient improved slowly; the sphenoidal cavity required a good deal of attention in keeping it freely open and in removing exuberant granulations. The vertigo immediately began to improve after the operation on the sinus, but he had occasional severe attacks which appeared to be dependent on blocking of the sinus outlet. Now the discharge has quite ceased. Once or twice when he has sniffed strongly he has had a slight vertiginous attack, but otherwise he has had no decided vertigo for several months. A feeling of dizziness remains, especially if he stoops or turns suddenly. He looks well and expresses himself as feeling so, and is fit for work. The hearing in the right ear has improved without other treatment, the watch is now heard at three inches, the higher tuning forks are heard rather better than the lower, and he says that the note of the tuning fork is discordant when compared with the left ear. There is still nystagmus, chiefly when the eyes are directed to the right, very slight when turned to the left. The optic neuritis is passing off, the improvement being more marked on the left side.

CASE 3.—A female, aged 45 years. Post-nasal discharge of two years' duration with severe occipital headaches and feeling of general ill-health. Double sphenoidal sinusitis and posterior ethmoidal disease. Lining membrane œdematous along outer wall of right sinus, which is small. Œdematous membrane with polypi and granulations in antero-external recess of left sinus. The left posterior ethmoidal cell extends above and to the outer side of sphenoid for a considerable distance. Granulations in this cell and in adjacent parts of sphenoid. Eyes: Neuritis in both, more marked in left. Result: Nasal cavities almost free from discharge, headaches gone; patient feels much better in general health; neuritis in eyes passing off.

CASE 4.—A male, aged 36 years. Post-nasal discharge of long duration with sore throat. Sphenoidal and posterior ethmoidal disease on both sides. Œdematous and polypoidal lining membrane in both sinuses. Left sinus much the larger and extends behind the right. Eyes: Discs full, edges indistinct, neuritis. Result: Disappeared from observation.

CASE 5.—A female, aged 35 years. Discharge from nose of one year's duration, severe headaches. Pus and polypoidal tissue in right sphenoidal sinus, polypoidal tissue in antero-external recess of left side. Eyes: Discs pinkish and full; veins full and twisted, the left side being the worse. Result: Nasal condition cured, no discharge, general health

much better, headaches less frequent and not so severe. Eyes: Condition passing off.

CASE 6.—A female, aged 23 years. Discharge from nose of one year's duration, general ill-health. Double sphenoidal and posterior ethmoidal disease. Ethmoidal cells on both sides full of polypoidal and granulation tissue. Pus in right sinus which is small. Left sinus larger and contains polypoidal tissue in the part adjacent to ethmoid. Eyes: Discs pinkish; veins, especially in right, full and twisted. Result: Cured; nose free from discharge; patient feels quite well; eyes normal.

CASE 7.—A male, aged 45 years. Much post-nasal discharge of four or five years' duration, headaches for some time chiefly on right side. Right sphenoidal disease, sinus small and full of polypoidal tissue. Eyes not examined. This case was operated on without removal of the middle turbinate. Result: Cured; discharge quite ceased and headaches gone.

CASE 8.—A male, aged 47 years. Nasal obstruction of four years' duration, loss of sense of smell, nasal polypi in both nostrils. Double ethmoidal and sphenoidal disease. Polypi in left sphenoidal sinus, œdematous lining membrane and pus in right. Eyes not examined. Result: Disappeared from observation.

CASE 9.—A female, aged 22 years. Post-nasal discharge of two years' duration, general ill-health. Right sphenoidal and posterior ethmoidal disease. Pus and granulations in right sphenoidal sinus. Posterior ethmoidal cell external to sinus in practically its whole length. Eyes normal. Result: The nose in this case is very narrow and the after-treatment was protracted. Now the patient feels much better in health, but the discharge, though much less, has not altogether ceased.

CASE 10.—A female, aged 47 years. Nasal obstruction and discharge of two years' duration. Left sphenoidal and posterior ethmoidal disease. Large development of ethmoidal cells and of sinus. Posterior wall of sinus 4¼ inches from nasal spine. Ethmoid much diseased, granulations and polypoidal tissue in sinus adjacent to ethmoid. Eyes normal. Result: Recent case; cure of nose proceeding satisfactorily.

CASE 11.—A male, aged 23 years. Nasal obstruction, post-nasal discharge, and sore throat for two or three years. Double sphenoidal sinus disease. Right side operated on nine months ago. Operation on left recently. Œdematous lining membrane in right sinus, good-sized polypus at entrance to left sinus, and polypoidal condition of lining membrane chiefly in floor. Eyes: Discs pink and full, more marked on right. Result: Right side cured, free from discharge; left side proceeding satisfactorily.

CASE 12.—A female, aged 23 years. Nasal obstruction on right side of six years' duration, frequent headaches. Polypi in right nostril. Disease of right sphenoidal sinus and right posterior ethmoidal cells. Eyes normal. Result: Nasal condition cured, headaches have disappeared, and the patient feels quite well.

CASE 13.—A male, aged 46 years. Post-nasal discharge of some years' duration. During the past two years the discharge has changed in character, having become more purulent and taken on a sickly odour. Feeling of malaise and depression of spirits, sore throat, hoarseness at times, dull headache with occasional acute headache over left frontal region. Treated for several years without benefit by various means for post-nasal catarrh. Left sphenoidal and ethmoidal disease. Soft polypoidal tissue and bright yellow pus in ethmoid. Large posterior ethmoidal cell full of diseased tissue extending somewhat above sphenoidal sinus. This latter cavity was of large size and full of thick cheesy pus. After removing this with a spoon it was found that except at the part next to the ethmoidal cell, where there were a carious opening and soft granulations, the lining membrane was quite healthy. It was consequently left. This sinus extended behind the right well to the right side. Eyes normal. Result: Nasal condition cured, complete cessation of discharge, and disappearance of headaches and of feeling of malaise and depression.

CASE 14.—A female, aged 20 years. Post-nasal discharge with disagreeable odour of some years' duration; ill health; posterior sphenoidal and ethmoidal disease on both sides. Small sinuses situated rather high up. Eyes not examined. Result: After a prolonged after-treatment the condition is practically cured; the discharge and odour have almost entirely disappeared and the patient's health is quite restored.

CASE 15.—A female, aged 35 years. Frequent colds in head and post-nasal discharge for some considerable time. Headache, especially on right side, and pain in right eye and right side of nose, with swelling, for the past week, of the tissues around the right eye; sore throat for some months. Right sphenoidal and ethmoidal disease. After removal of middle turbinate and curettage of ethmoid pus was seen coming from sphenoidal ostium. The sinus was opened and the lining membrane in the antero-external recess and in the region of the ostium was found to be diseased. Eyes: Discs normal, but there is slight orbital cellulitis. Result: The pain in the head has ceased, the cellulitis has disappeared, and the nasal condition is on a fair way to cure. The case is a somewhat recent one.

CASE 16.—A female, aged 20 years. Discharge from nose, chiefly post-nasal, of five years' duration; sickly odour at times. Headaches lately. Double sphenoidal and posterior ethmoidal disease, left side the worse. Operation on left side. Narrow sinus antero-posteriorly with formation of septa. Pus and œdematous lining membrane chiefly in floor. Somewhat difficult case owing to irregular nasal septum. Eyes: Discs pinkish, veins full. The result of this case is yet undecided.

CASE 17.—A female, aged 26 years. Sore throat and post nasal discharge of one year's duration. Hoarseness for some months. Left sphenoidal and posterior ethmoidal disease. Large posterior ethmoidal cell external to sinus. Sinus long and extends behind right. Disease chiefly in sinus. Œdematous membrane and muco-pus far back on floor. Eyes normal. Recent case.

The chief complaint made by the patients was of continued post-nasal and nasal discharge and chronic head cold, in some of several years' duration. Certain of them stated that the discharge had undergone a change in character, had become yellow and more thick, and had taken on a disagreeable odour. The results of this discharge were seen in more or less well-marked pharyngitis, granular, congestive, atrophic, or a combination of these; laryngitis, and certain middle-ear changes which one associates with post-nasal discharge and its consequences. Headache was a common complaint; in three it was described as severe, in one the pain was confined to the side of the disease. Most of the patients also complained of depression of spirits, lack of energy, and a feeling of general seediness and ill-health.

The rhinological appearances were fairly constant. In one case only, a double sphenoidal sinusitis, were there ordinary nasal polypi present. Atrophic changes, not of a marked character and affecting chiefly the posterior parts of the inferior and middle turbinals, were observed in most. In several, however, the other extreme, œdema of these parts, was seen. In some the suggestion of disease in the posterior group of accessory air spaces was obtained by the presence of pus between the middle turbinate and the septum, but this sign was not present in all. In most of the cases after, if not before, the application of cocaine and adrenalin to the nasal mucosa a portion of the anterior wall of the sphenoidal sinus could be seen and examined, median rhinoscopy occasionally being helpful. This part was observed in some cases to be highly congested, and in others to be markedly anæmic although untouched by the anæsthetic, and in most some thin, sticky, purulent discharge could be wiped from its surface, and a probe passed into the crevice between the middle turbinate and the sinus dislodged some thicker pus. As a rule, however, the discharge was by no means large in amount. Posterior rhinoscopy, sometimes very difficult to carry out by reason of the increased irritability of the pharynx, showed intense congestion of the mucous membrane covering the vault, with purulent or muco-purulent discharge in this region and in the naso-pharynx generally. In some of the patients there was œdema of the septum posteriorly, but this condition is not uncommon apart from posterior nasal sinus disease.

None of the symptoms and signs which have been described are taken to be either separately or collectively pathognomonic of sphenoidal disease, but rather, one would say, are they suggestive of disease in the posterior group of nasal accessory cavities. To complete the diagnosis it is necessary to examine the inside of the sinus. To this end, after the application of cocaine and adrenalin to anæsthetise and contract the nasal mucous membrane, a probe, bent slightly at the point, is passed in an upward and backward direction between the middle turbinate and the septum, bisecting the length of the former. Arrived at the anterior wall of the sphenoid the point is turned upwards and outwards, and with a little patience and practice it is in most cases not difficult to pass it into the sinus. Sometimes, however, a good deal of difficulty is experienced and occasionally it is impossible, and this for anatomical reasons. In a series of 230 skulls examined I found the ostium absent in one large sinus, and in another, also of good size, it led into the posterior ethmoidal cell. It is necessary to bear in mind the average distance of the posterior wall of the sinus from the anterior nasal spine of the superior maxilla so as to decide if the probe has actually entered the cavity. I found this in adult skulls, male and female, to be 3½ inches, the extremes being 2⅞ and 4¼ inches. In very few was the distance under 3 inches. These figures are in agreement with other observers. The passage of the probe should always be controlled by measurement or a graduated probe used. The posterior ethmoidal cell is a source of error in this connexion. In one patient I found the posterior boundary of this cell on one side distant 3½ inches from the anterior nasal spine. It is very rarely, however, that it extends so far beyond the anterior wall of the sphenoid. As a rule, when the probe has passed into the sinus one has the sensation of its having entered a cavity and it can be moved about freely, though it must be borne in mind that the size of the sinus varies greatly. The condition of the lining membrane can now be ascertained to a certain extent. The probing should be done gently, especially in the upper and outer part, though it should be carried out systematically, for, as these cases show, the pathological changes may be strictly localised. The firm tap of the healthy parts can easily be distinguished from the sensation of bogginess which proceeds from œdematous or polypoidal portions of the lining membrane. On the withdrawal of the probe and after wiping away all discharge from the neighbourhood a small-sized cannula may be passed, and with an air bag an attempt may be made to blow out any discharge there may be in the cavity, or syringing may serve the same purpose. As a rule, in chronic cases at any rate, only a small amount of discharge

will be obtained. Its absence, however, has little importance; in several cases where there were found on operation well-marked changes in the lining membrane in the shape of granulation tissue or polypi, there was very little discharge actually present in the sinus. There is no doubt, I think, in chronic sphenoidal sinusitis, where as a rule the ostium is more patent from atrophic changes in its neighbourhood, that the discharge is constantly removed by syphonage and by the alterations in the position of the head, as for instance during lying and bending. This I take it is the reason why one has been so frequently told in these cases that the discharge is worse in the early part of the day. The same, as one knows, is the case in antral disease. The absence of pus on washing or blowing out the sphenoidal sinus has erroneously been taken as conclusive of the absence of disease. Some recommend puncture of the sinus by trocar and cannula through the anterior wall. This procedure is not free from risk, though the attachment of a stop to the cannula minimises this. The roof of the sinus sometimes dips very abruptly with an S-shaped bend, and might conceivably be injured. In several skulls and in two patients the sinus of one side has extended well beyond the middle line anteriorly, and in such the puncture might be made into the wrong cavity. Personally, I have never found the necessity for its performance. Occasionally, when some difficulty has been experienced in passing the cannula through the ostium, the exertion of a little pressure when the point is in position has caused it to penetrate the mucous membrane, which partially occludes the natural opening, or the thin bone in the vicinity and to pass into the sinus. If the difficulty should be great it is well to wait till the removal of the middle turbinate has been carried out, if the examination already conducted warrants this operation. As a result of this proceeding the exploration of the sinus is much simplified, more of the anterior wall is seen, and any granulation or small polypi in the spheno-ethmoidal recess can be removed.

In one or two of the patients the examination of the anterior wall of the sphenoid with the probe gave the impression of bare bone, but no conclusion as to the inside of the sinus could be drawn from this, and, moreover, in certain parts of the nasal cavity where the membrane is thin it is easy to imagine that the bone is denuded of its covering.

Sondermann's suction apparatus is sometimes helpful in diagnosis. In one of my patients the removal of pus from the sphenoidal sinus was very evident. Its use, however, as a diagnostic, as well as a therapeutic, agent is not free from danger, in view of the possibility of the destruction of bone in the wall of the cavity in the region of the cavernous sinus.

In several cases Dr. W. F. Somerville kindly undertook the examination of the sphenoidal cavity and ethmoidal cells by skiagraphy, but I cannot say that we obtained any definite help from this method; certainly not so much as in some cases where I had his help in which the question of frontal sinus disease was under consideration. Looking to the conditions found on operation this is not surprising.

In none of my cases were there urgent symptoms, such as those pointing to cavernous sinus thrombosis.

Even after the most careful examination by all methods and after weighing the symptoms it is in many cases impossible to arrive at a more definite diagnosis than that there is disease in one or more of the posterior ethmoidal cells or in the sphenoidal sinus, or in the whole of the posterior group of accessory air spaces. Even the discovery of changes in the optic nerve, bearing in mind the variation in the relation of the sinus to the posterior cell and of both to the nerve, will not help us much, though one's attitude towards operation will be modified thereby. The exact diagnosis must then in many cases remain in abeyance. As a matter of experience, however, I should say that though it is not unusual to get posterior ethmoidal disease without sphenoidal disease it is rare to get the latter without the former; or to put it in another way, chronic sphenoidal disease is, in my opinion, in most cases secondary to disease in the posterior ethmoidal cells. With acute sphenoidal disease this is probably not so commonly the case.

Treatment.—As in disease of the antrum and frontal sinus so in disease of the region under consideration, certain cases either on account of their symptoms or because of the result of examination at once suggest the advisability of operation. Probably, however, in the majority milder measures should first be given a trial. Of these, nasal douching is the chief followed by drying and insufflation of powdered boracic acid. In certain cases where the ostium is easily entered the sinus itself should be regularly washed out. The cavity is then dried by means of the air bag and boracic acid blown in through the cannula. Reference has already been made to the use of Sondermann's suction apparatus as a therapeutic method.

Besides the patients on whose cases this communication is based at least an equal number have come under my care in whom the diagnosis of sphenoidal disease was hardly doubtful and who have been treated without operation. When these simpler methods fail, or when for some reason their use is not considered advisable, there are several lines of surgical procedure open to us. In most cases removal of the middle turbinate is necessary if this has not already been carried out for purposes of diagnosis. The condition of the posterior ethmoidal cells can then be ascertained in more detail, and the removal of this structure is itself sometimes sufficient to admit of the cure of ethmoidal and sphenoidal disease by giving freer drainage and by permitting of the better application of simple antiseptic treatment. If, however, it is decided to deal with the ethmoidal disease by further operative measures, and if the state of the sphenoidal sinus should still remain in doubt, operative treatment should be limited to the cells. These can be removed by punch forceps and curette, acting, of course, under the control of good reflected light. That should be a matter of course in all intranasal surgery, but it is doubly imperative in dealing with these parts. It used to be recommended that curettage of the ethmoid should be carried out under the control of the finger passed behind the palate and into the posterior naris, but I hardly think any rhinological surgeon would consider this a sufficient safeguard. The curetting should be systematically and carefully performed, working always downwards and forwards. The opening up of the ethmoidal cells may reveal the pathway of the disease to the sphenoid. This is not unusually the case, and has been my experience in several of the patients operated on. In such one naturally follows the course which the pathological process has taken, opening into the sinus by way of the posterior ethmoidal cell. Where, however, the ethmoid has been dealt with without revealing a track to the sphenoid it is well in such cases as we are now dealing with—viz., those in which the condition of the sinus remains in doubt—to await the result of this treatment on the discharge before proceeding further. The after-treatment should be carried out in the way to be later described.

When it is determined, *ab initio*, to operate on the sphenoidal sinus this may in some few cases be performed without removal of the middle turbinate, the atrophy of the parts being sufficient to expose most of the anterior sphenoidal wall. As a rule, however, and especially in view of the frequency of associated ethmoidal disease, it is better to remove this structure as a preliminary. I then prefer to enter the sinus directly. This I do with a long-handled spoon passed to the region of the ostium, breaking through the posterior ethmoidal cell for the purpose if necessary. By a little pressure the bone in the neighbourhood is broken through, the opening is enlarged by working towards the centre and downwards, and the anterior wall is completely removed by means of Hajek's strong punch. I have used a long chisel to remove the lower thick part, but this punch seems strong enough for this purpose and is safer. For free drainage it is necessary that no cul-de-sac should be left in the lower part of the cavity. The extent of the sinus should now be determined by means of the probe and its walls carefully examined for diseased lining membrane and for carious openings in the bone. Special care and attention should be paid to the supero-external portion and to the recess adjacent to the ethmoid. In the former position the bone separating the cavity from the cavernous sinus, the carotid, and the optic nerve, is always thin, even if it is not absent through carious destruction or developmental defect, and in the latter I have most frequently found œdematous and polypoidal lining membrane. The curettage should be carried out in detail, great gentleness being used in connexion with granulations growing in the neighbourhood of carious bone. Sometimes it is wiser to leave these untouched. No force should be employed in curetting the roof or external wall. Healthy portions of the lining membrane should be

left, as by so doing the ultimate cure is hastened. If it is intended to remove the posterior ethmoidal cells this can now be done with safety, taking one's bearings from the external boundary of the sinus. In most cases the bone bounding the antero-external recess of the sinus is hard and firm, affording protection to the optic nerve as it passes through the foramen, but sometimes the cavity extends beneath this opening, and this prolongation may have a very thin roof or the roof may be in part absent. Needless to say, in such cases the curetting should be carried out with the greatest circumspection. In three skulls I found this anatomical peculiarity and in another skull the posterior ethmoidal cell extended similarly beneath the foramen.

Fortunately, I have never had the mischance to wound the cavernous sinus, though I am aware that this has happened to others. In the general run of cases the curettage of the cavity is not attended with severe hæmorrhage. There may be a sharp spurt for a minute or so, but this can be controlled by cotton-wool mops, and the operation can be carried out in detail and under the control of sight. If an opening is found in the intersinusal septum it will be necessary to do the double operation, even if this has not been determined upon by reason of the examination of the opposite nasal fossa, for the two cavities may be discharging through the one side. The parts may be swabbed with zinc chloride, silver nitrate, or some such solution. It is then carefully dried and boracic powder, or aristol and boracic powder, as is my habit, insufflated. No packing is required or desirable. The after treatment, both of the sphenoidal and of the ethmoidal region, exacts a good deal of patience and constant attention. Granulations grow quickly and tend to close the sinus before the interior is healed, so that they must be kept in check. Hence it is necessary at the operation to remove the anterior wall as completely as possible. In the ethmoidal part, too, granulations tend to be exuberant. Thoroughness in removing the disease from the sinus and cells will shorten the period of after-treatment, but it is always of some weeks' duration, and healing may not be complete for three or four months. There need, however, be no pessimism as to the result. The cases herein detailed prove this. The disagreeable post-nasal discharge ceases, the headaches are improved or disappear, and patients express themselves as feeling in every way more fit and cheerful. With many people the continuance of nasal or post-nasal discharge has a most depressing effect. They cannot keep their minds off it; it becomes almost their absorbing thought. A business man, for instance, stated that since the cure of his nasal disease he felt much more keen mentally. Previously the difficulty of concentrating his attention on any matter worried him. He was always conscious of the discharge and he felt depressed and melancholy. One has, of course, heard the same story in connexion with disease in other of the accessory nasal cavities, and, indeed, wherever a chronic nasal discharge is present.

Beyond some discolouration and puffiness of the skin in the region of the orbit and some rise of temperature in certain of the patients operation has been followed by no serious results. In none have I felt justified in using the external route. Occasionally it is necessary to remove a spur, to treat a septal deflection, or to do a partial tubinectomy as a preliminary. Even after doing this there is in some narrow noses such a confined space to work in that if there should be any severe symptoms or marked changes in the optic nerve it would, I think, be wise to operate as one does in the ethmoidal part of Killian's complete frontal operation. There is no doubt that this gives a very direct access to the ethmoidal cells and to the sphenoidal sinus, but sometimes the resulting scar is unsightly.

The considerations as regards anæsthesia are the same as in other intranasal operations. Most of these patients were operated on under cocaine, but in some chloroform was necessary. The patient should be prepared for general anæsthesia and then operated on under local if possible. The removal of the anterior sphenoidal wall causes a good deal of pain. Probably the recumbent position is always advisable.

I wish now to make some remarks with reference to the examination of the eyes in these patients. This had special reference to the condition of the optic discs and was carried out in 14. In six the discs were reported normal; in four the condition was one of congestion of varying degree in the different patients and in either side of the same patient; in three there was definite optic neuritis on both sides. In two of these patients there was double sphenoidal sinusitis, while in one the disease was confined to the right side, but there was a small extradural abscess in connexion with the sinus disease. In this patient, though the neuritis was practically equal in degree on both sides at the time of the first examination, after the cure of the sinus disease the left disc improved more quickly than the right. In one case, that of a man with left sphenoidal and left posterior ethmoidal disease, there was atrophy of the left disc, while the right disc showed marked congestion. So that in these cases we have practically every gradation from the normal optic nerve to atrophy associated with disease of the posterior accessory nasal air spaces. Excepting the recent cases and in one patient who disappeared from observation, unfortunately one with optic neuritis, subsequent examinations were made at periods varying from five weeks to several months. The optic atrophy is progressive and the sight of that eye is getting worse. In all the others the cure of the sinus disease has been followed by cure of, or improvement in, the condition of the optic nerves. In view of the high percentage of cases in which these various changes in the fundus of the eye were found it cannot, I think, be controverted that they have the relation to the sphenoidal and ethmoidal disease of effect and cause. Whether the ethmoidal disease or the sphenoidal is the more baneful in this connexion it would be difficult to determine, and as a matter of fact the question is not of much practical importance, as the two diseases are so commonly associated. From the examination of a series of skulls I found that in the great majority the posterior ethmoidal cell did not extend back as far as the optic foramen. On the other hand, the intra-orbital part of the nerve which may extend to one inch has sometimes a very close relation to this cell, and, moreover, the cellular tissue which surrounds it and helps to protect it from injury rather makes it more vulnerable by permitting of the extension of the ethmoidal infection to the neighbourhood of the nerve. In rare instances from a developmental defect the nerve has been found actually traversing the sinus and the posterior ethmoidal cell, a fact which emphasises still more the necessity for great care in curetting the external wall. The relation of the posterior cell to the sinus is extremely variable, and in quite a fair proportion of cases there is a well-developed extension of the ethmoid along the external and upper boundary of the sphenoidal cavity. It is interesting to notice that in two of these patients, the one with optic atrophy and one of the patients with optic neuritis, this relationship was found.

How does the sinus disease secondarily affect the optic nerve? From what has been said it is evident that this may be by direct extension of the inflammatory process owing to a developmental or pathological defect in the bony wall and, as a matter of fact, the supero-external boundary is the part most likely to be affected by disease which may lead to destruction of the bone. In the case of the man with optic neuritis, nystagmus, and vertigo there was a fairly large gap in this part through which pus could be seen entering the sinus, an extra-dural abscess, in fact, in the region of the cavernous sinus and optic nerve. As a rule, however, I imagine the connexion between the changes in the nerve and the sinus disease is indirect. In many of the skulls I examined there were quite definite small openings leading from the sinus to the internal aspect of the base of the skull. These were specially seen in the external wall, but certain in the roof were fairly constant. The external layer of the dura mater is connected through these small foramina by thin fibrous bands with the under layer of muco-periosteum lining the sinus. In this way a cellulitis or an external pachymeningitis is set up by direct extension, and we get a sequence of events similar to that described by Gradenigo with reference to the involvement of the abducens nerve in the canal of Dorello secondary to middle-ear suppuration, the infection passing to the cellular tissue in the carotid canal and thence to the nerve. Similarly, the cellulitis or external pachymeningitis extends to the optic foramen, where the nerve gets a close enveloping sheath from the dura mater. In this connexion it is interesting to note that whereas it is rare (I only found it in 4 out of 230 skulls) to get one sinus so extensive as to come into direct relation with both the optic foramina, it is not so unusual (24 in 230) to get one sinus extending behind the other completely to the opposite side and coming into relation with both carotid

tracts. This may be, and I have no doubt in some cases is, the explanation of changes in both optic discs with one-sided sinusitis, though another possible route of infection is through the roof to the optic commissure and tracts. In my experience, however, disease in the roof of the sinus is much less common than in the external wall. In rare instances the posterior ethmoidal cell of one side has been found extending backwards above both sphenoidal sinuses to the opposite side.

In conclusion, I would urge that in all cases of protracted post-nasal discharge, and especially in those cases where there is a condition of non-fœtid atrophy involving chiefly the posterior part of the turbinals, the possibility of chronic disease of the posterior group of accessory air spaces being the *fons et origo mali* should be more clearly recognised. The diagnosis is not easy and in some cases can only be definitely made after removal of the middle turbinate, a proceeding which one hesitates to carry out when the indications are not clear. Considering, however, the deleterious effects of a chronic post-nasal discharge, locally and on the general health, the bolder course will, I am convinced, more often be the wiser, and there should be no hesitation when an examination of the eyes reveals definite changes in the optic discs. Of late years attention has been drawn to the association of ocular and orbital inflammatory conditions with various nasal diseases so that it is hardly necessary to emphasise the necessity for an examination of the nose with special reference to posterior accessory sinus disease in cases showing vascular changes in the optic nerves.

Glasgow.

MALIGNANT AND NON-MALIGNANT TUMOURS OF BILATERAL ORIGIN.[1]

BY W. ROGER WILLIAMS, F.R.C.S. ENG.

UNTIL, in a recent publication,[2] I specially called attention to this subject by making a synthesis of many examples, which was the first of its kind, very little was heard among pathologists as to the bilateral origin of tumours. Yet no theory of neoplasia which fails to take into account this peculiarity can be regarded as really satisfactory. The well-established fact of the bilateral origin of tumours, although only an occasional occurrence, certainly indicates that tumour disease is something more than the manifestation of a solitary local aberration.

There can, I think, be no doubt that the activities of the local cells are largely conditioned by the totality of the forces which determine the integration of the whole organism, and the bilateral origin of tumours specially points to perturbation of these latter forces. In many anomalies *per excessum*, but specially in digital redundancy, when two or all four extremities may be simultaneously affected, we have an analogous condition; and underlying developmental disturbance of this general kind is probably the determining factor of most cases of bilateral tumour formation.

The chondromas furnish a good example of this. Thus, multiple cases are often met with in which the distribution of the tumours is bilateral, and, in exceptional instances, there may even be some approach to symmetry. In this type of disease it is by no means uncommon to find both hands affected with multiple tumours, and, in rarer cases, both hands and feet may be thus affected; while, quite exceptionally, most of the bones of the upper and lower limbs may be concurrently invaded with similar tumours, of which remarkable examples have been reported by Steudel,[3] Kast, and others. The concomitancy of angiomatous growths with tumours of this kind is a significant item pointing in the same direction.

It accords with the foregoing that most bilateral tumours originate in early life, many of them being obviously the outcome of gross developmental lesions of ante-natal origin. But, besides these ante-natal causative factors, it appears that certain acquired morbid conditions, such as chronic eczema, seborrhœa, and other hyperplastic lesions, sometimes determine bilateral neoplasia.

Among the numerous instances of the multiple outbreak of malignant growths lately reported, some of the most striking are those in which the malady arises concurrently in both of paired organs, or in both of other bilaterally symmetrical parts of the body. These bilateral tumours are often described as symmetrical, but it is seldom that they correspond so exactly as to justify the use of this term.

It is of interest to note that non-malignant tumours of bilateral origin are even less exceptional than their malignant congeners; thus, papillomas, angiomas, moles, fibromas, odontomas, myomas, adenomas, chondromas, osteomas, dermoid, sebaceous and other cysts—all present bilateral manifestations, and not so very rarely. An instance of generalised nævi, in which the distribution of the lesions seemed to indicate metameric symmetry, has been described by Hallopeau and Weil,[4] and several cases of "fissural" angioma are on record. Hutton and others have reported examples of bilaterally generalised angioma, and hereditary instances of this kind have been studied by Parkes Weber,[5] Osler, and others.

Among the fibromas, striking examples of bilaterality are met with in the disease called "multiple fibroma of nerves," in which over two thousand tumours have been counted in a single patient; and, in exceptional cases, the grouping of the tumours may be symmetrical. Although this disease is usually met with in adults, many early-life cases have been recorded, in some of which the tumours were of ante-natal origin. Probably the germs of this disease always are congenital, the tumours arising in defectively developed areas of the endoneurium. In this connexion it is worth noting that in a considerable proportion of cases, one or more of the numerous tumours eventually take on sarcomatous change. Moreover, various other developmental defects may be met with, in those who are subject to this disease, which affects horses, oxen, and other cattle, as well as mankind.

In the condition commonly called "diffuse lipoma" we meet with multiple, bilateral, and symmetrical tumours, but these formations can hardly be regarded as true tumours—they are rather the outcome of a tropho-neurotic process. The supra-clavicular fatty masses,[6] which are usually bilateral, belong to the same category; and here also "lipoma arborescens" may be included. To indicate this distinction it is best to speak of these overgrowths as examples of diffuse "pseudo-lipomatosis."

Among the true lipomas bilateral forms are met with which are occasionally symmetrical, but such occurrences are decidedly rare. Spencer Wells[7] successfully removed a fatty tumour, weighing 16½ pounds, from one perirenal region; and a similar tumour, weighing 14½ pounds, from the corresponding region on the opposite side. Doran[8] found bilateral retroperitoneal lipoma of the posterior abdominal wall; Senn[9] and others lipoma of each axilla. Examples of bilateral lipoma of the tendon sheaths of the feet are also on record. Of lipomas in hernial positions, J. Hutchinson, jun., and others have reported bilateral examples.

Among the many other instances of bilateral lipoma reference may be made to some striking cases by A. Prichard,[10] in which the limbs—chiefly the upper ones—were the seat of symmetrical tumours. Cruveilhier had previously described a similar case.

The most remarkable example of this kind known to me was reported some years ago by Broca.[11] His patient was a man, aged 70 years, who when he was only 25 years old first noticed a small fatty tumour at the upper and outer part of his right hip. In the course of six years it gradually attained a large size. It was then extirpated and found to be an ordinary fatty tumour. At this time the patient had no other tumour. The wound healed, and there was no sign of any return of the disease. However, at the end of five months an eruption of hundreds of small fatty tumours gradually took place all over his body. Most of these remained quite small. Fresh tumours continued to form in this way for

[1] A paper read before the Bristol Medico-Chirurgical Society on Jan. 12th, 1910.
[2] The Natural History of Cancer, 1908. p. 298.
[3] Bruns' Beiträge zur klinischen Chirurgie, Band viii., S. 503.
[4] Annales de Dermatologie, tome viii., p. 483.
[5] THE LANCET, July 20th, 1907, p. 160.
[6] For further information on this subject reference may be made to the writer's publication on Diffuse Pseudo-lipoma (Transactions of the Pathological Society, vol. xli., p. 289).
[7] Brit. Med. Jour., 1889, vol. i., p. 757.
[8] Transactions of the Obstetrical Society, 1902, p. 265.
[9] Pathology and Surgery of Tumours, 1900, p. 406.
[10] Brit. Med. Jour., 1881, vol. i., p. 271.
[11] Traité des Tumeurs, tome i., p. 304.

a period of over 40 years. During this time his general health remained good; the operation scar continued sound and free from any sign of recurrence. Such was his condition when, at the age of 70, he came under Broca's care for increasing dysphagia of some months' duration. The whole surface of his body was then studded with immense numbers of these small fatty tumours; the head and neck comprised 480, the trunk 965, the upper limbs 370, and the lower limbs 265. Altogether 2080 tumours were counted, and there were many very minute ones besides. These tumours varied in size from that of a pea to a walnut, but several were much larger. Their microscopical and macroscopical features were those of ordinary fibro-lipoma. The patient died from starvation, caused by the progressive dysphagia, some weeks later.

At the necropsy the body was found to be extremely emaciated, not a trace of fat being found in the usual situations. The gullet and pylorus were surrounded by large fatty growths, which had occluded the lumen of these organs, and so caused the fatal dysphagia. There were several small fatty growths in the valves of the heart, several large ones deep in the neck, one within the sheath of the carotid vessels, and another within the sheath of the right sterno-mastoid muscle; these tumours, like the others, were fibro-fatty in structure. There were no other noteworthy lesions, except tuberculous deposits at the apex of each lung.

It is, however, among the osseous tumours that bilateral and symmetrical manifestations are most frequently encountered; and this in many vertebrates, even as low in the scale as fishes, as well as in mankind. Multiple epiphyseal exostoses are commonly bilateral and symmetrical. In a remarkable case by J. Leidy[12] there were 126 of these symmetrically placed tumours, many of which were of great size. This type is often hereditary; thus Reclus[13] knew of a man and his three sons who were all similarly affected, as well as his sister, her daughter, four children of the latter, and seven of her grandchildren. Many cases of this kind originate in early life, and the germs of the tumours seem to be derived from developmental irregularity along the adjacent epiphyseal lines.

The exostoses of muscular attachments are also often bilateral and more or less symmetrical. It is just the same with the exostoses of the external auditory meatus, which are usually bilateral according to the observations of W. Turner,[14] Field, Welcker, and others. Even orbital exostoses are exceptionally bilateral; and to the many instances of this kind which arise in connexion with the jaws, I shall subsequently have occasion to refer.

A rare form of bilateral exostosis is that met with on each side of the pelvis, in the vicinity of the line of junction of the constituent parts of each innominate bone. Cartilaginous "rests" in the synovial fringes of joints, such as the knee, occasionally originate chondromatous or osseous tumours, which may by detachment become free in the joint; such formations are often bilateral. The osteophytes that so frequently occur within the skull of pregnant women are commonly bilateral. Even the subungual exostosis of the great toe is occasionally bilateral, as in a case by Poncet, to which I have elsewhere referred.[15] That curious malady called "myositis ossificans," which has some kinship with the exostoses, is nearly always bilateral.

I have hitherto referred chiefly to non-malignant forms of tumour disease; I now propose to submit a few remarks as to the leading features of some of the chief local varieties of these bilateral outbreaks, dealing chiefly with malignant manifestations.

Mamma.—In malignant disease of the breast we can seldom be quite sure of the bilateral origin of the affection, unless the malady begins at about the same time in each organ. Owing to this disability, only about a score of really convincing cases of bilateral malignant disease of the female breast have been recorded, but no doubt the condition is not so exceptional as this paucity of authenticated examples seems to imply. Of 1664 cases of mammary cancer tabulated by Gross, only 2 were bilateral in this restricted sense; but Billroth met with 3 instances of the kind in 245 mammary cases.

I have elsewhere[16] described an example of bilateral epithelial cancer of the female breast, and referred to similar cases by Aitken, Volkmann, Klotz, and others. In most of these the malady was concomitant with the puerperal state, its onset was acute, and its progress very rapid. Billroth[17] has met acute bilateral sarcoma of the breast in a pregnant woman. This type of malignant disease seems to be relatively less rare than the epithelial form, for of Gross's 156 mammary sarcomas 3 were bilateral.

Hansy[18] has described an instance of the bilateral origin of cancer of the male breast.

It is by no means rare to see cancer of one breast followed after a time by outbreak of the disease in the other. Most of these cases are, however, due to direct extension of the primary disease or to its dissemination. Yet it occasionally springs up independently in the opposite breast, of which I have elsewhere[19] described an instance. I have also there cited some remarkable cases in which, many years after extirpation of one breast for cancer without recurrence, the disease subsequently supervened in the opposite breast.

Other instances of bilateral malignant disease of this part in which the concomitant tumours were of different anatomical structure may also be included in this category—e.g., Lebert (colloid cancer of one breast with ordinary scirrhus of the other), Nunn, Mandry, and Küster (tubular cancer of one breast with acinous cancer of the other), De Morgan, Czerny, Bryant, and Billroth (scirrhus of one breast, with sarcoma of the other). Mammary adenomas may also be bilateral, for of 46 cases recorded by me in one instance there were several small tumours in each breast, and of Velpeau's 54 cases 5 were bilateral.

Uterus.—Uterine myomas are commonly multiple and bilateral, and in some instances there is decided tendency to symmetry. In cases of uterine duplicity both of the uterine organs have contained myomas.

Many examples of bilateral myoma of the broad ligament have been reported, in some of which the tumours were symmetrically placed (Uerow, A. J. Smith, Abbot, Duncan, Jordan, Vierott, &c.). Bilaterally symmetrical lipoma of the broad ligaments has been described by Dr. E. Emrys-Roberts;[20] while Doran and others have reported bilateral papilliferous cystoma of the same part. Winckel has met with myoma of both round ligaments.

Papilloma of both Fallopian tubes has been studied by Doran and Godart; and bilateral cancer by Westermark, Kaltenbach, Cullingworth, Zweifel, Rollin, and others. Sänger has seen bilateral sarcoma of the tubes.

Ovary.—Malignant tumours of the ovaries are often of bilateral origin; this is especially so with sarcomatous kinds, a large proportion of which occur in early life; thus, of 39 cases by Zangemeister,[21] 10 were bilateral; and of 23 by Pick, 9 were bilateral, of which latter 6 were of the small round-celled variety.

Examples of bilateral ovarian cancer have been studied by Woolley,[22] Nicholls,[23] and others. Rocher[24] has met with bilateral ovarian dermoids, each of which had originated cancer. Here also mention may be made of Ladinski's[25] remarkable case of glandular cancer of one ovary with sarcoma of the other, in a patient with absence of uterus, vagina, and tubes.

With regard to the initial multiplicity of non-malignant ovarian tumours I need only mention that it is of frequent occurrence, especially in the dermoid, papillary, and cystic forms. Thus, of 117 ovarian dermoids tabulated by Pauly,[26] 20 were bilateral, and of Lebert's 22 dentiferous ovarian dermoids three were bilateral. A case of bilateral ovarian dermoids in two sisters has been reported by F. Hué. Of 15 ovarian myomas by H. Briggs[27] and by Löhlein three were double-sided. Dermoid of one ovary and cyst-adenoma of the other is by no means rare.

Testis.—Malignant tumours of the testis are not infrequently bilateral in origin; and this seems to happen oftener

[12] University Medical Magazine (U.S.), 1889, June.
[13] Le Progrès Médical, 1885, No. 31.
[14] Journal of Anatomy, &c., vol. xiii., p. 200.
[15] Bristol Medico-Chirurgical Journal, March, 1904, p. 17.
[16] My book on "Diseases of the Breast," 1894, p. 318.
[17] Deutsche Chirurgie, Lief. xli., S. 27.
[18] Wiener Medicinische Wochenschrift, Feb. 11th, 1899.
[19] Diseases of the Breast, 1894, p. 302.
[20] THE LANCET, July 17th, 1909, p. 186.
[21] Beiträge zur klinischen Chirurgie, Band xvi., Heft 2.
[22] Boston Medical and Surgical Journal, 1903, No. 1, p. 1.
[23] Montreal Medical Journal, 1903, p. 326.
[24] Correspondenzblatt für schweizer Aerzte, 1877.
[25] American Journal of Obstetrics, &c., July, 1898.
[26] Gazette Hebdomadaire de Médecine, Paris, 1875, p. 485.
[27] Brit. Med. Jour., 1897, vol. i., p. 1083.

with round-celled sarcomas than with other forms of the disease. A considerable proportion of these malignant tumours arise in infancy and early life, many of them being congenital. In a remarkable case of this kind by Rogers both testes, which had not descended, were sarcomatous, causing a large intra-abdominal tumour, which proved a serious obstacle to delivery. Even more striking are two instances cited by Kronpecher of sarcoma of both testes in double cryptorchids.

Malignant testicular tumours, especially those of early life, are notable for the great frequency with which heterotopic structures, such as cartilage, bone, striped muscle, &c., occur in them. Of 15 early-life testicular malignant tumours by Schubert, three were bilateral; and of 93 cases, mostly adults, by Kober, five were bilateral.

Although over 30 examples of teratoid and dermoid tumours of the testis are known to me, not a single one of them is bilateral. What is the cause of the great difference in this respect between these testicular formations and their ovarian congeners?

Kidney.—Malignant tumours of the kidney are decidedly rare, except in infancy and early life, when many cases are met with, a considerable proportion of which are congenital and bilateral in origin. Thus, of 607 malignant renal tumours by Küster,[28] 13 were of bilateral origin. It was by studying a case of bilateral rhabdomyosarcoma of the kidneys of an infant, that the "rest" theory of tumour formation was suggested to Cohnheim.

According to Paul[29] about half of the early-life renal sarcomas are bilateral, but Walker,[30] from an analysis of 141 cases, finds this proportion of bilaterality much too high, only 10 of his cases being double-sided. Jacobi noted bilaterality in 8 of 41 cases of this kind, and Albarran 3 in 80 cases. Bilateral origin is, however, of more frequent occurrence in early-life sarcoma than in any of the renal tumours of later life, although double-sided forms of the disease are met with even then.

In a man, aged 77 years, Sabrazès and Hasnot[31] found sarcoma of both kidneys, with sarcoma of both adrenals. This man had symmetrical lesions on the back of each hand, which seem to me indicative of acanthosis nigricans. In an epileptic male idiot, aged 44 years, Scheren[32] met with sarcomatous "mixed" tumour of each kidney, associated with cylinder-celled cancer of the stomach and multiple psammo-sarcoma of the brain. A case of bilateral renal carcinoma has been studied by Hausmann; and similar disease in a cat by Auger and Roquet.

Parkes Weber[33] met with double-sided papillary adenoma of the kidneys. Polycystic disease of the kidneys is usually bilateral, congenital, and several members of a family may be affected; moreover, other organs, such as the liver and spleen, are apt to be involved, and those affected fairly often present various other developmental anomalies. This type of disease has been met with in several of our domestic animals—e.g., horses, asses, oxen, and sheep. In a case by Mears, polycystic disease of both kidneys was concomitant with similar disease of both ovaries and of the uterus.

Here mention may be made of a remarkable case of villous papilloma of the pelvis of each kidney, in which there were also similar tumours in the bladder, at the orifice of each ureter, as recorded by Murchison[34]; and Coats has figured an example of the same disease of the bladder, in which the growths were grouped around the orifice of each ureter.[35]

Adrenal.—Bilateral forms of adrenal disease, in infants and adults, are not very rare: thus of 48 cases by Hartmann and Lecène,[36] 7 were double-sided, and of 26 cases by Rolleston and Marks 2 were bilateral. Carrière and Deléarde have found symmetrical epithelioma of this part, and instances of bilateral sarcoma have been recorded by Breton and Looten, Fränkel, Woolley, and others.

Double-sided adenoma has been studied by F. P. Weber,[37] Warthin, &c. Chauffard met with adenoma of both adrenals and the pancreas in a cachectic woman, with multiple fibromas of the nerves and pigmentary lesions.

Eye.—Choroidal sarcomas are occasionally bilateral, as in 5 of 214 cases studied by Fuchs.

With glioma of the retina bilaterality is of much more frequent occurrence—indeed, congenital glioma is usually double-sided. The disease is often hereditary; thus, in a case by Newton,[38] 10 of a family of 16 had died from it, the disease being bilateral in 7 of them. Of 60 cases by Lawford and Collins, in 12 the disease was bilateral in origin; of Hirschberg's 60 cases, 14 were double-sided; and of Wintersteiner's 405 cases, 97 were bilateral.

Bilaterally symmetrical hairy dermoids of the ocular conjunctiva have been described by Harman,[39] and examples of double-sided dermoids of the corneo-scleral region by Bergmeister and Wicherkiewicz.

Brault met with congenital double-sided ocular lipoma, and Emery with bilateral lymphangioma of conjunctiva and eyelids.

Face.—Instances of bilateral rodent cancer of the face have been recorded by J. Hutchinson,[40] Bowlby,[41] Ribbert, Volkmann, Furnivall, Schimmelbusch, myself, and others. In Furnivall's case[42] the lesions were symmetrical. Bilateral enlargement of the "sucking pads" of the cheeks occasionally occurs.

Jaws.—Margois[43] has seen double-sided sarcoma of the inferior maxilla in a man aged 50 years. C. Heath[44] has described a similar case in a boy 7½ years old. The tumours are preserved in the Hunterian Museum, where they are described in the catalogue as "Two myeloid tumours developed symmetrically in the angles of the lower jaw." From examination of the specimens Bland-Sutton believes the tumours are fibrous odontomas. The boy had suffered no recurrence when he was last seen some years after removal of the tumours.

In an infant, 3½ years old, Parkin[45] found myeloid sarcoma of the alveolar process of the right superior maxilla, with a similar tumour at the symphysis menti of the inferior maxilla.

Then there are instances of bilateral sarcoma of the parotid by Degen and Schridde.

Bilateral odontomas of the inferior maxilla have been reported by Cheever and by Riedl.

Baum found each antrum of Highmore occupied by an odontoma, and Astley Cooper long ago described osteoma of each antrum, which may have been odontomatous.

In a young woman Barling[46] had to deal with circumscribed fibroma embedded in the alveolar process of each superior maxilla, in which there was no obvious indication of the tumours having originated from tooth sacs.

Carless has described epithelial odontoma which invaded both superior maxillæ.

Symmetrical hyperostosis of the nasal process of each superior maxilla constitutes the affection called "goundrou," common among West African negroes, and tumours of this kind are occasionally seen in Europeans. Double-sided hyperostosis of the alveolar process of this bone has been figured and studied by Dreschfeld, Agnew, and Fürst. The latter's patient, a girl aged 6 years, also had hypertrichosis universalis. Hyperostosis sometimes involves the angle of each inferior maxilla, and in the condition called "leontiasis ossea" both superior and inferior maxillary bones may be affected in this way.

Ear.—Examples of the bilateral outbreak of epithelioma of the external ears have been recorded by Mandry[47] and Sumpter.[48] In these cases the cancer supervened on chronic eczema of the part.

Extremities.—Of 263 cases of primary cancer of the extremities analysed by Michäel,[49] 2 were bilateral; in 1 of these cases the cancer supervened on chronic ulcers. Volkmann has also reported bilateral epithelioma of the thighs, arising in the sites of old ulceration. The symmetrical development of rodent cancer in each groin, in the absence of any obvious antecedent lesion of the part,

[28] Deutsche Chirurgie, 1896-1902.
[29] Liverpool Medico-Chirurgical Journal, January, 1898.
[30] Annals of Surgery, 1898, vol. xxvi., p. 527.
[31] Archives de Médecine Expérimentale, 1907, No. 6, p. 767.
[32] Cited by Walker, Archiv für Klinische Chirurgie, 1896, Band liii.
[33] Transactions of the Pathological Society, 1898, vol. xlix., p. 176.
[34] Ibid., 1870, vol. xxi., p. 241.
[35] Pathology, p. 318, Fig. 152.
[36] Travaux de Chirurgie Anatomique et Clinique, 1904, tome ii., p. 15.
[37] Transactions of the Pathological Society, 1906, vol. lvii., p. 338.
[38] Australian Medical Gazette, 1902, May, p. 236.
[39] Transactions of the Ophthalmological Society, 1906, vol. xxvi., p. 35.
[40] Archives of Surgery, vol. iii., p. 335.
[41] Transactions of the Pathological Society, 1894, vol. xlv., p. 163.
[42] Ibid., 1898, vol. xlix., p. 299.
[43] Bulletin de la Société d'Anatomie, Paris, 1908, No. 1, p. 74.
[44] Diseases of the Jaws.
[45] Brit. Med. Jour., 1892, vol. i., p. 1074.
[46] Brit. Med. Jour., 1903, vol. ii., p. 1532.
[47] Beiträge zur klinischen Chirurgie, 1892, Band vii., S. 589.
[48] THE LANCET, 1893, vol. i., p. 887; ibid., 1894, pp. 1160 and 1274.
[49] Beiträge zur klinischen Chirurgie, Band vii., S. 13.

has been described by T. S. Pigg,[50] and Mr. C. A. Morton[51] has seen a malignant growth in each groin which arose in the local lymphatic glands. Massen,[52] in a newly born infant, found congenital myxo-sarcoma of each gluteal region, and Lockwood[53] has met with congenital lipoma of the sole of each foot.

It is evident from the foregoing items, which by no means exhaust the list, that the bilateral outbreak of malignant and other tumours is less exceptional than is generally believed.

Walton-by-Clevedon.

A CASE OF SPONTANEOUS RUPTURE OF AN ORDINARY OVARIAN CYST.

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THE patient, a woman, aged 34 years, 6 feet in height and weighing only 9 stones 13 pounds, by occupation a trained mental nurse, retired to bed in her usual health on the evening of Feb. 7th, 1909. She awoke as usual next morning at 6 A.M., but on turning over in bed preparatory to leaving it she experienced severe pain in the lower part of the abdomen on the left side. She dressed, however, and walked some hundred yards to commence her rounds in the wards of the institution. Meeting another nurse she complained that she felt very ill; she drank a cup of tea and then went out into the open air. She felt better after a short rest, but the pain returned with increased violence, obliging her to walk back to her bedroom. Here she tried to undress and get into bed, but was eventually found at about 8 A.M. lying prone and prostrate on the floor. She was undressed, put to bed, and a hot fomentation applied to the abdomen. This secured relief for the time, but two hours later the pain had returned in all its severity. Seeing that she expected her catamenia in a few days, and always had some pre-menstrual pain, although she was regular, this attack was at first taken to be an aggravated dysmenorrhœa. She slept at times throughout the day, but had recurrences of spasmodic pain. During the exacerbations she felt faint and her pulse became frequent and feeble. Later in the day she vomited after taking liquid nourishment, the vomit being the contents of the stomach only without bile. She continued in a pinched and somewhat collapsed state, and had several attacks of acute pain in the lower part of the abdomen.

At 9 P.M. the patient was seen in consultation by Dr. Robert Jones, Dr. C. T. Ewart, and Dr. G. H. Harper-Smith, and the conclusion was come to that the case presented evidence of a condition more serious than that of an uncomplicated dysmenorrhœa. There were by this time marked collapse and abdominal facies, the respirations were shallow and almost entirely thoracic, the pulse was quick, weak, and compressible, and the temperature was subnormal. Pain was complained of over nearly the whole of the abdomen, but chiefly in the lower half, but there was no especial tenderness. Apparently the liver dulness was diminished. There was no swelling in the right iliac fossa. She had never been under treatment for dyspepsia, although she was thin and somewhat poorly nourished. She had not previously complained of pain in the abdomen. There had not been constipation, diarrhœa, melæna, vomiting, or jaundice. The case therefore was obscure, but apparently one of perforation, or diffuse septic peritonitis from appendicitis. In either conclusion the issue was grave and the treatment surgical, decisive, and urgent. Mr. McAdam Eccles was telephoned for and asked to come prepared for immediate laparotomy. He arrived soon after 11 P.M., and after examination agreed as to the urgency of the symptoms, considering that perforation of the stomach by an ulcer was the most likely cause of the condition, though alluding to the possibility of appendicitis or "a ruptured ovarian cyst."

At midnight, just 18 hours after the first onset of the symptoms, Dr. F. Paine administered ether, and Mr. Eccles opened the abdomen in the middle line above the umbilicus. When the peritoneal cavity was reached no free gas escaped, and only a little glairy fluid found its way out. This fluid was quite unlike that obtained from the peritoneum in cases of ruptured stomach or acute septic peritonitis. An enlargement of the wound and further exploration with the fingers revealed no evidence of gastric disease, but occasioned a larger quantity of similar fluid to escape, coming up definitely from below. This seemed to point fairly conclusively to the rupture of an ovarian cystoma of the ordinary type. Consequently the first incision was protected with gauze and another made in the middle line close above the symphysis pubis. From this a still larger amount of typical ovarian fluid poured out, and then the hand was introduced; a collapsed ovarian cyst springing from the left ovary was made out. This was quickly delivered through the wound and its pedicle ligatured with silk. Examination of the opposite ovary showed an early cystic adenoma, and it was deemed advisable to remove this as well. The extravasated ovarian fluid was rapidly sponged out of the pelvis and flanks, though a considerable quantity must have remained in the peritoneal cavity. Both wounds were completely closed by layers of sutures, no drainage being employed. Strychnine and brandy were injected subcutaneously during the operation on account of the extreme collapse. Two pints of normal saline solution with an ounce of brandy were passed into the rectum at the termination of the operation, which had lasted over an hour.

No sleep was obtained on the night of the operation; nourishment was given every hour and retained. On the second night, to secure rest, a hypodermic injection of morphia was administered. The second and third days were marked by troublesome hiccough. The temperature never rose above 99·8° F. The after-treatment was most assiduously carried out by Dr. Harper-Smith, and the patient made an uninterrupted and complete recovery, returning to her professional duties within six weeks, and has remained well.

These cases of spontaneous rupture of ordinary ovarian cysts are not common, and for the rupture to occur without previous knowledge of the existence of the cystoma and from such a slight cause as merely turning in bed distinctly rare. A study of this and similar cases cannot but be a matter of interest and instruction.

The parietal peritoneum is profusely supplied with nerve terminations, connected centrally with sympathetic plexuses and trunks. Any sudden stimulation of these peripheral connexions tends to produce profound shock and to place life in imminent danger. Perforation of any part of the alimentary tract sets free material which is intensely irritating to these nervous endings. If such fluid—as in the case of pus from the appendix—is septic in its nature the irritation may be so marked that severe collapse ensues. The extravasation of normal urine by intra-peritoneal rupture of the bladder is also followed by great peritoneal irritation, but not as a rule so considerable as that resulting from alimentary perforation. Rupture of the gall-bladder, especially when that viscus contains septic bile, is followed by pronounced peritonism. Similar symptoms may be produced by the tension of the pedicles of organs or tumours, or by the rupture of an extra-uterine fœtation. Rupture of a parovarian cyst is not uncommon, but the bland nature of the fluid cast into the peritoneal cavity does not cause much irritation; in fact, the sudden disappearance of such a tumour without symptoms is well known.

Spontaneous rupture of the ordinary multilocular ovarian cystoma is rare on account of the walls of the cysts being, as a rule, of some considerable thickness. Occasionally when the cyst is a large one and occupies a large part of the lower abdomen external violence may burst it and cause extravasation of its contents into the peritoneal cavity. Rupture other than traumatic may occur from simple distension causing great thinning of the cyst wall, by degeneration or necrosis of the cyst wall, or from interference with blood-supply by torsion or otherwise, causing gangrene of the cyst wall or enormous distension by extravasated blood.

The contents of an ovarian cystic adenoma differ considerably from those of a parovarian tumour, and its effect upon the peritoneum is correspondingly different. Even the spontaneous rupture of an ordinary cyst gives rise to a disturbance which is marked. The patient usually experiences

[50] Transactions of the Pathological Society, vol. xlix., 1898, p. 300.
[51] Transactions of the Pathological Society, 1896.
[52] Annales de Gynécologie, 1894, September, p. 218.
[53] Transactions of the Pathological Society, 1886, vol. xxxvii., p. 450.

sudden agonising pain, the pulse becomes weak and rapid, the face pallid, with often a cold sweat upon it, and the temperature falls. There is often very free diuresis. If the abdomen is examined it will be found to be flattened rather than prominent, with sometimes a bulging in one or other flanks. The respiratory movements of the abdominal wall are lost, and there is a marked rigidity of the abdominal muscles on palpation. Dulness with the possibility of fluctuation will be discovered in the lower abdomen, and also generally in one or both lumbar regions.

Per vaginam and per rectum, as a rule, the presence of a pelvic tumour more or less flaccid indicates the condition of a partial or complete rupture of an ovarian cyst. The patient is obviously very ill, and unless surgical aid is promptly obtained will almost inevitably succumb.

Another point of great importance is the possibility of the diffusion of the contents of the cyst into the peritoneal cavity, inducing a widespread infection of the serous membrane with a malignant neoplasm. It is a well-known fact that many ovarian cystomata which appear macroscopically to be of an innocent character are really malignant, either sarcomatous or carcinomatous. There are many instances on record where spontaneous or other rupture of ovarian cysts has been followed by widespread secondary malignant infection which has caused the death of the patient. In one case this was so rapid that the patient succumbed within a month of the ovariotomy, during which some of the secondary cysts had been tapped.

With diagnosis at an early stage and prompt removal of ovarian tumours, the unfortunate accident of rupture will be increasingly uncommon.

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THE MENOPAUSE, NATURAL AND ARTIFICIAL.[1]

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THE menopause means literally "the cessation of menstruation." There comes a time in the life of a woman when she menstruates for the last time, and for the purpose of statistics this is regarded as the date of the menopause in her case. In reality, the menopause is not an event that can be dated; it is properly a transitional period which usually occupies about a year, more or less. In some cases the period is summed up within a few months, in others it is spread over a few years. The menopause is strikingly described in the popular phrase, "the change of life." Its character as a period rather than an event is expressed in the term "critical period" ("*l'âge critique*" of the French writers); but this term is unfortunate, inasmuch as it conveys an exaggerated idea of the danger to which a woman is exposed when she is passing from the troubled waters of reproductive activity into the still haven of unproductive rest. Another term in use is "climacteric," derived from the Greek term meaning the round of a ladder; as a matter of fact the Greek physiologists admitted five climacterics, the first beginning with the seventh year, the second with the twenty-first or three times seven, the third with the forty-ninth or seven times seven, the fourth with the sixty-third or nine times seven, and the fifth with the eighty-first or nine times nine; the third climacteric is the one specially referred to in relation to women; but it is obvious that the division of the ordinary term of life into climacterics is purely artificial.

At the epoch of puberty the onset of menstruation in a normal girl is held to be identical with the first appearance of the menstrual flow, but in cases of atresia the ovarian and uterine changes involved in menstruation may proceed for some months without any outward sign. At the menopause also appearances may be deceptive, for, whereas in the case of a healthy woman the cessation of menstruation may be held to mark the menopause, there are exceptions when dealing with diseased conditions. Thus, certain tumours may cause hæmorrhage after the cessation of the true menstruation and, on the other hand, a woman who has had the uterus removed ceases to have a flow, even though the ovaries (the dominant organs) remain active, and in such a case the menopause, as indicated by constitutional symptoms, may come on several years after the removal of the uterus and its resulting cessation of hæmorrhage.

The Normal Menopause.

The normal menopause is due to the gradual cessation of ovarian activity. It has become known in recent years that the ovaries carry out a dual function: in the first place, they govern the uterine changes that result in menstruation; and, in the second place, they exert a definite influence on the nervous and vaso-motor system. Consequently the diminution of ovarian activity has a dual effect: in the first place, the process of menstruation becomes erratic and irregular and finally ceases; and, in the second place, the woman manifests constitutional symptoms in the form of nervous disturbances and want of vaso-motor coördination.

We need not dwell long on the first of these effects; suffice it to say that menstruation usually becomes rather scanty, and one or two periods may be missed. Occasionally an isolated period may be marked by an unusually free loss of blood, and this is sometimes the last of the periods.

As regards the constitutional effects of ovarian involution, the nervous symptoms most frequently met with are irritability and mental depression. By general consent some allowance is made for women who become irritable or act in an erratic manner as they approach the age of the menopause; and a special effort is made to provide diversion and cheerful associations for those who become low-spirited. So well is this known that some women are apt to trade on the indulgence that they expect and to become capricious and domineering. In normal cases these symptoms never amount to much, and many women retain an unimpaired cheerfulness and sweetness of disposition; they do not take the world into their confidence and proclaim their age by their altered disposition. Marked psychical changes are seen in women of unstable mental balance, in those who have not been in the habit of exercising self-control, and in those who have a predisposition to insanity; but these cases are happily in the minority.

Vaso-motor incoördination shows itself in spontaneous flushings and heat-waves. These vary both in frequency and in intensity; some women have two or three in a day, others may have them twenty times a day; sometimes they are slight and transient, causing no more than a passing inconvenience, whilst in other cases an intense flushing gives rise not only to discomfort but also to a sense of shame and self-consciousness. These flushes often vary with the menstruation; when a period is missed flushes come on; and if menstruation returns for a few months the flushes may remain in abeyance during that time, coming on again the next time that a period is missed. When menstruation ceases finally most women are subject to flushings several times a day for several months, and sometimes for as long as two or three years.

The sexual disposition after the menopause varies considerably in different individuals; in many it is just as well developed as in the earlier years; in others, again, there is a gradual diminution of desire and responsiveness. It seems evident that although the presence of normal ovaries is necessary to the development of sex instincts, these instincts may remain in the fully-developed woman when the ovaries either cease to be functional with the lapse of time or are removed on account of disease. I shall have to return to this point when speaking of the artificial menopause.

The features of the normal menopause are so well known that it is not necessary to dwell on them here at any length, but two or three points may be mentioned with advantage,

[1] A paper founded on a lecture delivered at the Medical Graduates' College and Polyclinic, Chenies-street, on Nov. 3rd, 1909.

especially with the object of correcting some misapprehensions which are apparently still extant, not only among the lay public, but also in the medical profession.

The first is that *a recurring increase of the menstrual flow is not a normal sign of the menopause.* Irregularity and scantiness are characteristic; but increase of hæmorrhage, particularly if repeated, always means organic disease.

The second point is that the menopause is often considered, particularly by the public, to be necessarily a time of danger. This is not so; the menopause in itself never leads to disease. It is true that at the age of the menopause there is a predisposition to certain diseases, just as there is a predisposition to other conditions at other ages, but *the menopause itself is not a cause of disease of any kind.*

The menopause is also credited with disastrous influences in predisposing to lunacy, and it should be said that in the absence of any tendency to mental instability in the family or individual there is no danger whatever of lunacy supervening; if such a tendency be present in any marked degree the functional disturbances connected with the menopause may be just sufficient to turn the scale in exactly the same way as any other influences may—for example, sudden shock, privation, worry, and bodily ill-health; but the menopause presents no danger of insanity in the case of an ordinary sane person.

Just as the dangers of the menopause are sometimes overestimated, so also is its value as a curative agent; this remark applies especially to fibroids, for patients are still told when they have fibroids that they have only to wait for the menopause and all will be well. It has now been shown by many writers that the menopause is a fallacious hope with fibroids, since many patients, instead of improving, get worse, and very often during the years they spent in waiting for the menopause the patient's health is seriously or even permanently crippled by profuse hæmorrhage.

The Artificial Menopause.

The artificial menopause is one that is brought on prematurely by the performance of an operation for the removal of the organs concerned in menstruation. The menopause may be premature without being artificial; reproductive activity becomes exhausted early and menstruation ceases 10 or even 20 years before the usual time. The youngest age for the menopause that I have known of is 25; it was evidently a case of under-development, as the patient did not begin menstruating until after she was 20. In the absence of under-development it is rare for the menopause to come on before the age of 30 to 35; the causal factor may be a profound mental or physical shock, rapid child-bearing or prolonged lactation causing superinvolution of the uterus after childbirth. I recently saw a patient, aged 30, who had a child when she was 25 years of age and had not menstruated since. This was apparently a case of superinvolution. The pelvic organs resembled in their atrophy those of a woman of 60.

The artificial menopause may be apparent or real. When the uterus is removed and the ovaries are preserved menstruation ceases; but this is not a true menopause, for the ovaries may remain active and the patient does not undergo the mental and physical phenomena of the climacteric until some years later. As a matter of fact, if a small portion of the body of the uterus is left, as may happen in a high supravaginal amputation, menstruation may continue regularly, with no other difference than a diminution in quantity. I find in my records of the after-results of hysterectomies, when one or both ovaries were preserved, that of 94 cases where data are available seven continued to menstruate after the operation. The particulars are as follows:—

No. 45 H. Age at operation 46; menstruation continued regular for 3½ years.

No. 102 H. Age 33; for 6½ years after operation there was a show once a month; the cervical canal measured 1½ inches.

No. 618 H. Age 44; for a year after operation up to date of report a coloured discharge once a month, lasting 1–2 days; cervical canal 1½ inches.

No. 743 H. Age 33; for 1¼ years from operation to date of report menstruation was regular, lasting 4 days, and requiring 6 diapers; cervical canal 1½ inches.

No. 926 H. Age 38; for 1½ years to date of report there was a brown discharge once a month; cervical canal 1½ inches.

No. 19 K. Age 30; menstruation continued regular but scanty for 3 years and 10 months.

No. 944 L. Age 37; for a year to date of report there was a show every 6 weeks; cervical canal 1¼ inches.

Another patient (No. 54 L), who was 35 at the time of the operation, wrote six and a half years later: "Ever since the operation I have had, not regularly every month, but every now and then, all the feelings of impending menstruation, such as swollen and irritable breasts, &c." But in this case, as in the remaining 86, there was no monthly hæmorrhage.

One symptom is nearly always present when the menopause comes on—namely, flushes and waves of heat. In cases of apparent menopause due to removal of the uterus, the incidence of these flushes gives us an indication as to the time when the real menopause supervenes. I have records stating when the flushes came on in 83 cases of patients whose age at the time of the operation was not more than 50. They may be considered in three groups, the first comprising 26 cases of patients under 40; the second, 43 cases of patients of 40 to 47; and the third, 14 cases of patients of 48 to 50—that is, about the usual age for the menopause.

The results are as follows:—

Group 1 (26 Cases).

Flushes came on "soon after operation" in	5 cases.
,, ,, within a year in	3 ,,
,, had not come on up to date of report, varying from 1 to 8 years after operation, in	18 ,,

Group 2 (43 Cases).

Flushes began before operation in	4 cases.
,, came on "soon after operation" in	5 ,,
,, ,, within a year of operation in	5 ,,
,, ,, ,, 2 years ,, ,, ...	5 ,,
,, ,, ,, 3 ,, ,, ,, ...	6 ,,
,, ,, ,, 4 ,, ,, ,, ...	2 ,,
,, had not come on up to date of report, varying from 1 to 5 years after operation, in	16 ,,

Group 3 (14 Cases).

Flushes began before operation in	6 cases.
,, came on "soon after operation" in...	4 ,,
,, ,, within 1 or 1½ year in	3 ,,
,, had not come on when seen a year after operation in	1 ,,

In those cases in which flushes had come on and thus enabled us to fix the advent of the true menopause, the ages at which this occurred were as follows:—

At 30,	2 cases	At 42,	1 case	At 47,	2 cases.
,, 32,	1 case	,, 43,	2 cases	,, 48,	5 ,,
,, 37,	2 cases	,, 44,	1 case	,, 49,	4 ,,
,, 38,	2 ,,	,, 45,	4 cases	,, 50,	3 ,,
,, 41,	1 case	,, 46,	2 ,,	,, 51,	2 ,,

These data bring out two points: first, that the true menopause does not usually come on for several years after the removal of the uterus with conservation of one or both of the ovaries in women who have not attained the age of the menopause, and consequently the cessation of menstruation in such cases is properly described as an "apparent menopause." Secondly, that the removal of the uterus often brings about the menopause a good deal earlier than the usual time.

The real artificial menopause is brought about by the complete removal of both ovaries, with or without the uterus. These operations are followed by the cessation of menstruation, and flushes of heat usually come on within a few weeks of the operation.

In a few cases when both the ovaries have been removed and the uterus has been left menstruation continues, either apparently or in reality. Apparent menstruation is due to some uterine condition which maintains irregular hæmorrhage; this may be a polypus in the uterus or a marked endometritis, such as is found in cases of pyosalpinx. But real menstruation may occur if a portion of ovary has been left behind. When an operation is undertaken on account of inflammatory conditions necessitating the removal of the appendages it is not always easy to be certain that a small fragment of ovary has not been left behind among adhesions or on the distal portion of the pedicle. This is not an occurrence of any importance. In fact, so far from being a drawback, it is an actual advantage, because the convalescence of the patient from the operation is not complicated by the disturbing influence of the artificial menopause. In many of my later operations for inflammatory conditions of the tubes

I have deliberately preserved one ovary when this course was possible.

The artificial menopause differs from the natural in that the cessation of ovarian activity is brought about suddenly instead of gradually, and consequently the resulting symptoms are more marked. Flushes are often more severe and more frequent, and the alteration of disposition which accompanies the normal menopause is more pronounced. When the menopause occurs in the course of nature the woman is prepared gradually for the diminution of sexual activity and dulling of sexual instincts; in the case of operation these changes are forced upon her suddenly. The younger she is the more marked the effect is likely to be.

Time would not allow me to go fully into the question of the effects of removal of the ovaries, but my notes on after-results supply ample material for this investigation, and I hope to be able to carry it out before long. I will only say now that the lurid pictures which have been drawn of the effects of double ovariotomy in "unsexing a woman" have been absurdly exaggerated, and that I can state from certain knowledge that women who have had to undergo these operations do not become the sexless hypochondriacs and lunatics that they are supposed to develop into. At the same time I may add that there are manifest advantages in preserving one ovary when the primary consideration of the woman's health allows of this course.

Treatment at the Menopause.

I shall conclude these remarks with a few practical observations on the treatment of women who are passing through the menopause, whether natural or artificial.

Moral treatment is not without its importance. The psychical disturbances should be dealt with sympathetically, but not too seriously, and patients should be impressed with the thought that their disturbances are not unnatural and will pass over before long, leaving them probably better emotionally, mentally, and physically than they were before. It should be made quite plain that the menopause is not a time of any special danger and that the healthy woman has nothing to fear from it. At the same time any deviation from health, either local or general, must be carefully investigated and treated, without being vaguely relegated to the limbo of incidents of the change of life.

A course of ammonium bromide, in 10-grain doses three times a day, combined with some bitter tonic such as tincture of cinchona, is often very useful, both in checking flushes and in allaying nervous irritability. The taking of alcohol in any form should be discouraged, as it is peculiarly apt at this time to degenerate into the insidious practice of nipping. So many women at the menopause suffer from constipation and flatulence that special treatment should be directed to these points: and the tendency to obesity should be fought against by encouraging exercise and discouraging afternoon naps and sitting about all day. In some cases of artificial menopause the distressing flushes can be alleviated by the administration of ovarian extract in 5-grain doses two or three times a day, continued for several days at a time.

Upper Wimpole-street, W.

THE BUENOS AIRES INTERNATIONAL EXHIBITION OF HYGIENE.—Under the auspices of the Argentine Government an International Exhibition of Hygiene is being organised by a committee of medical men resident in Buenos Aires. His Majesty's Minister to the Argentine Republic is the honorary chairman of the British Section of which Dr. Mulcahy is chairman. A congress will be held in connexion with the exhibition, which will be opened on May 25th, and there will also be displays of physical exercises and contests of strength and skill. The exhibits will include everything appertaining to the improvement of the health of a community and will be divided into 13 sections. The site selected for the exhibition is a position easy of access and about 1½ miles from the centre of the city; it covers approximately 50,000 square metres, the area allotted to Great Britain covering 11,400 square feet. Dr. Canton is the President and Dr. Luis Agote secretary of the exhibition. A memorandum giving preliminary details has been issued by the Board of Trade, and further particulars can be obtained from the British Commissioner for the Buenos Aires Exhibition, Board of Trade, Queen Anne's Chambers, Westminster, S.W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases and Specimens.—Cyclic Vomiting.—Infant Feeding.

A MEETING of this section was held on Jan. 28th, Dr. H. D. ROLLESTON being in the chair.

Dr. DAVID FORSYTH showed a case of Congenital Œdema with Dilatation of the Intestinal Lymphatics. The patient, who was a boy aged seven weeks, weighing 4·25 kilogrammes, and an only child, was admitted to the Evelina Hospital on account of his œdematous arms and legs. From the first his left hand, left foot, penis, and scrotum were much swollen. His right leg was affected to a less degree. The back of the left hand was enormously swollen, looking as if it had been blown up tightly with air. The dorsum of the left foot and the outer side of the left leg showed another large œdematous mass. The right arm and foot were swollen. The penis and scrotum were thrice their proper size. All these œdematous areas pitted readily. The face and trunk showed nothing amiss. No family history of congenital œdema could be obtained. He seemed to pass an average quantity of urine, which contained no albumin. After a sudden rise of temperature he died somewhat unexpectedly. At the post-mortem examination the œdematous patch on the left leg was incised and appeared as a greyish-white, gelatinous mass. Microscopically, it was composed of connective tissue with large spaces which had been distended with clear fluid. The peritoneum covering the stomach, intestines, and mesentery was opaque, slate-coloured, and very greatly thickened. The mesenteric glands were healthy. About 100 cubic centimetres of non-fatty turbid fluid had collected in the peritoneum. The heart, lungs, and other viscera were healthy.

Dr. ROLLESTON and Mr. A. C. D. FIRTH showed a case of Hemiatrophy of the Cerebral Hemisphere. The patient was a girl aged 1 year and 2 months. The mother gave a history of a series of fits at irregular intervals, the paralysis being noticed after the last. Examination showed spastic paralysis of the right arm and leg, and hemianopia involving the temporal half of the left retina and the nasal half of the right. The child died from meningitis. Post mortem, the left cerebral hemisphere was markedly atrophic.

Mr. DOUGLAS DREW showed a case of Separation and Displacement Forwards of the Lower Epiphysis of the Femur treated by Plate and Screws. The patient, who was a boy, aged 8½ years, was knocked down and run over by a van on Nov. 30th, 1909. He was admitted to the Queen's Hospital for Children shortly after the accident. The region of the knee was much swollen, and above the swelling there was a depression in the front of the thigh as though the knee were displaced forwards. The radiograph (taken a few days later, after failure to reduce the deformity under anæsthesia) showed the lower epiphysis of the femur displaced forwards on to the front of the shaft of the bone and rotated through nearly 90°, so that the articular surface looked directly forwards. On Dec. 9th the epiphysis was fixed in position by means of Lane's plate and screws. The limb was placed in a splint bent to a right ankle. Massage and passive movements were begun within three weeks and active movements a week later. On Jan. 19th, 1910, the child could walk and the movements at the knee were good.

Dr. F. PARKES WEBER showed a case of Family Idiocy without Characteristic Ophthalmoscopic Signs. The first patient, who was a female child, aged 14 months, was unable to sit up, and owing to weakness in the muscles of the back and neck, her head fell backwards if not supported. She could not even turn or roll herself over in the bed from one side to the other. There was vertical nystagmus at times. Ophthalmoscopic examination showed nothing characteristic of family amaurotic idiocy. The child was practically blind, though she could still perceive a bright light, and would occasionally follow an electric lamp with her eyes. The pupils reacted promptly to light. There seemed to be nothing abnormal in regard to cutaneous sensation, hearing, or taste.

Two other children besides the patient have suffered from the same condition.

Dr. PARKES WEBER also showed a case of Splenomegaly and Hydrocephalus. The patient was a boy aged 13 months. He was very pale, with a large head, measuring 20⅞ inches in circumference, and an open anterior fontanelle of about the size of a shilling. The liver extended three fingers' breadth below the costal margin. Examination of the blood showed 2,568,000 red cells and 6300 white cells per cubic millimetre, the white cells consisting of small lymphocytes 33 per cent., large lymphocytes 24 per cent., eosinophiles 1 per cent., and basophiles 6 per cent.; the hæmoglobin was 29 per cent. Although there was no history of congenital syphilis, the treatment adopted has been chiefly anti-syphilitic. The child's condition has slowly but decidedly improved. Wassermann's reaction for syphilis gave a negative result.

Mr. N. BISHOP HARMAN showed a case of Abnormal Congenital Pigmentation of one Eye. The patient was a girl, aged 2¾ years. The condition was first noticed at the age of 6 months. In the right eye the iris was almost black; at the distance of a yard the difference between iris and pupil could scarcely be detected; the sclera was covered with patches of brownish-black pigment. The left eye had a white sclera and a dark-brown iris. The eyes of the parents were normal.

Dr. O. K. WILLIAMSON showed a case of Spastic Diplegia with Mental Defect. The patient was a girl, aged 10½ years. Forceps had been used at her birth. She did not walk until three years old, and from this time the mother noticed that she walked stiffly. She did not speak until about eight years of age, and at present could only say a few words. There was distinct loss of power in both arms and also hands. Sensation appeared to be normal. Both knee-jerks were greatly exaggerated. There was extensor response to plantar stimulation on the left side, but not definitely so on the right side. On attempting to grasp an object, coarse movements of the arm took place.

Mr. J. M. G. SWAINSON showed a specimen of a Strangulated Ovarian Tumour removed from a child, aged 2 years, who was admitted to a hospital with acute abdominal symptoms. The tumour was removed and the child made a good recovery.

Dr. ERIC PRITCHARD and Mr. SYDNEY STEPHENSON showed a case of Basedow's Disease in a boy, aged 8 years. His father had been in an asylum for two years. The thyroid was enlarged and there was slight proptosis.

Dr. E. I. SPRIGGS showed on the epidiascope some X ray photographs obtained from a boy aged 3 years, the subject of Habitual Constipation.

Other cases were shown by Mr. P. MAYNARD HEATH, Dr. A. MANUEL, and Dr. T. VINCENT DICKINSON.

Dr. A. E. RUSSELL read a paper on a case of Cyclic Vomiting in a child, associated with Hypertrophic Stenosis of the Pylorus.

Dr. DONALD CARTER read a paper on Infant Feeding.

MEDICAL SOCIETY OF LONDON.

The Cerebellum and its Affections.

A MEETING of this society was held on Feb. 7th, Dr. SAMUEL WEST being in the chair.

Dr. J. S. RISIEN RUSSELL delivered the first of the 1910 Lettsomian lectures on the Cerebellum and its Affections. In calling attention to what was fundamental in the anatomy of the cerebellum special emphasis was laid on the nuclei of the organ and their connexions with other parts of the nervous system, for the reason that they subserve such important functions. The results of the researches of Sir Victor Horsley and several others prove that no fibres emanate from the cerebellar cortex which find their way into the peduncles, and that any efferent fibres that leave the cerebellum by its peduncles are derived from its nuclei. The superior peduncle, however, is the only purely efferent tract from the organ. It takes its origin from the dentate nucleus, forms important connexions with the red nucleus, oculomotor nuclei, and optic thalamus, thus bringing one-half of the cerebellum into connexion with the cortex of the opposite cerebral hemisphere. The other peduncles convey afferent tracts to the cerebellum, the middle one supplying a route by which impulses may reach the cerebellum from the cerebrum by way of the pontine nuclei. Among the most important of the fibres which form the inferior peduncle are those which constitute Fleichsig's tract (dorsal cerebellar tract) and those from the vestibular nerve and the nuclei with which it is connected, while there are in addition those from the inferior olive, the reticular formation of the pons, and the lateral nucleus of the medulla. Stress was laid on the importance of recognising that the nuclei of Deiters and Bechterew are part of the cerebellar system. Both of these nuclei have important connexions, not only with the cerebellum, but with the oculomotor nuclei, and from the nucleus of Deiters is derived the ventro-lateral tract, which passes down the homolateral side of the spinal cord and serves as one path by which impulses from the cerebellum may reach the cord. Another route to the cord is afforded by the connexion which the superior cerebellar peduncle makes with the red nucleus, in that from this region is derived Monakow's bundle (rubro-spinal tract), which passes down to the lateral column of the cord, and which constitutes an indirect motor path, which permits of locomotion in an animal deprived of its cerebrum, and in whom the pyramidal tracts are thus put out of action. Afferent impressions to the cerebellum and red nucleus can evoke efferent impressions, which are capable of maintaining station and locomotion without the coöperation of the cerebrum, and there is evidence to show that the afferent impressions are derived from the deeper structures, such as the muscles and joints. The most important peripheral sense organ from which the cerebellum receives afferent impressions, however, is the labyrinth, through the vestibular nerve, which has important connexions with the nucleus of Bechterew and that of Deiters. Sherrington's conception of the labyrinth as part of a proprio-ceptive system, in which the afferent stimuli which evoke central reflex reactions are generated by the actions of the organism itself, as opposed to its environment, is fully considered, as is his view that the labyrinth is the proprio-ceptor for the head segment, and the cerebellum the head ganglion of the proprio-ceptive system as a whole, to which internuncial paths from many proprio-ceptive centres of other segments converge, together with those from the labyrinth. In endeavours to determine the precise functions of the cerebellum both excitation and ablation experiments have been performed. The former cannot be said to have always supplied results that have been very satisfactory, for most observers have experienced the difficulty of evoking a response from the cortex of the cerebellum, as compared with the facility with which a response is obtained when the cerebrum is similarly under investigation. Nevertheless, Dr. D. Ferrier was able to evoke certain movements, notably in connexion with the eyes and head, and Adamkiewicz and others believe that the cerebellum contains definite and distinct centres for all the voluntary movements of the body situated in the cerebellar cortex, and that accordingly excitation of the cerebellar cortex is capable of evoking contraction of the muscles of the homolateral limbs. His (Dr. Russell's) own experience has, however, been at variance with such observations, and justifies the belief that Horsley and Clarke are correct in considering that the cortex of the cerebellum is inexcitable, and that such movements as result from electrical excitation of the organ are the outcome of spread of the stimuli to the cerebellar nuclei. These observers failed to evoke movements on electrical excitation of the cerebellar cortex, but maximal stimulation of the basal region and dentate nucleus resulted in homolateral conjugate deviation of the eyes and head and flexion of the homolateral elbow, whilst deeper excitation of the paracerebellar nuclei caused in addition extension of the contralateral elbow, hyper-extension of the neck and trunk, and forcible extension of the lower limbs. The condition of things which prevailed reminds us of the clinical picture which Dr. Hughlings Jackson described so long ago as 1871 as produced by a cerebellar fit, for in this the head is retracted, the trunk arched backwards, the upper limbs flexed, and the lower ones rigidly extended. Dr. Jackson's view that an interaction is constantly going on between the cerebrum, cerebellum, and spinal cord, and that if one of them is put out of action from any cause the energy of the other parts asserts itself, is referred to, and his explanation of cerebellar influx to the lower centres causing increased tonus when the cerebrum has been put out of action is fully discussed. Some of his own (Dr. Russell's) results at one time appeared to be in opposition to Dr. Jackson's theory, but in the light of more recent investigations he is now convinced that his results are capable of a different interpretation from that which

seemed the more obvious at the time when they were published. Bouché's experiments are quoted, in which fits induced by absinthe were clonic when the cerebrum was intact, but tonic when the cerebrum was removed or the mesencephalon divided—a condition of things further emphasised by Leonard Hill's experiments, in which he was able to vary at will the nature of an absinthe fit from clonic to tonic, according as he allowed the arterial supply to the cerebrum to go on or interrupted it by clamping the vessels. The investigations of Horsley are quoted, in which decerebrate rigidity induced by section of the mesencephalon at the level of the intercollicular groove was unaffected by successive sections through the cerebellum until the nuclei were reached; also others in which a horizontal section, cutting off the dorsal aspect of the cerebellum from the nuclei, produced no effect on decerebrate rigidity subsequently induced by section of the mesencephalon, which differed in no way from that which results when a similar lesion is produced in a normal animal. Thiele's researches into the source of the tonus which occasions decerebrate rigidity are also referred to as showing that successive lesions through the mesencephalon do not interfere materially with decerebrate rigidity until the region of the paracerebellar nuclei is reached. All these experimental results, together with Sherrington's original observation that decerebrate rigidity is abolished on the homolateral side by hemi-section of the spinal cord, are regarded as strongly supporting Dr. Jackson's view of cerebellar influx. The best established facts are in accord with the view that the cerebellum is an organ the cortex of which receives afferent impressions from such deeper-seated structures as the muscles and joints, which evoke from its nuclei that degree of muscle tonus that is essential for maintaining posture and for making coördinate movements possible. In dealing with the results of ablation experiments on the cerebellum, he pointed to the fact that ever since the investigations of Flourens in 1824 a host of experimental physiologists have confirmed his observation that destructive lesions of the organ result in disturbances of the coördination of muscular movements, while since Luciani's experiments there have been those who have recognised that he is correct in supposing that in addition to incoördination diminished tonus and want of force of muscular contraction are among the consequences of destruction of the organ. From the practical standpoint of our clinical work it is not only important to determine the functions of the cerebellum in general, but it is also desirable that we should gain such information as may enable us to localise the seat of a lesion in the organ. Thus it is that the results of unilateral ablation of the cerebellum are particularly important to the clinician. Among these may be mentioned rotation and reeling towards the side of the lesion, incoördination, more marked in the homolateral limbs, in which some have determined, in addition, a loss of tonus and want of force of muscular contraction. The head assumes a fixed attitude, in which the ear is approximated to the shoulder on the side of the lesion, while the neck is rotated in a manner that causes the homolateral side of the face to be turned upwards, while the trunk is curved with the concavity to the side of the lesion. The eyes, having recovered from "skew deviation," which is an immediate effect of the lesion, show lateral conjugate turning to the opposite side, with coarse lateral nystagmus. Emphasis is laid on the homolateral defect in the limbs, which results from a cerebellar lesion, in contrast to the contra-lateral effect which obtains in cerebral lesions, a feature that is strikingly illustrated not only by the experimental results but also by the connexions which the cerebellum forms with the spinal cord, as contrasted with those which obtain in the case of the cerebrum. Emphasis was also laid on the fact that destructive lesions of the labyrinth produce similar effects to those which result from destructive lesions of the cerebellum.

OPHTHALMOLOGICAL SOCIETY.

Bilateral Ophthalmoplegia in an Infant.—Congenital Anterior Synechiæ with Buphthalmos.

A MEETING of this society was held on Jan. 27th, Mr. W. H. H. JESSOP, Vice-President, being in the chair.

Dr. F. E. BATTEN read a note on a case of Bilateral Ophthalmoplegia in an Infant. He referred to a case of bilateral paralysis of the third nerves in an infant shown by Mr. Jessop at a meeting of the society on June 10th, 1909. The case he now reported presented very similar symptoms. The child, a male, aged 10 months, was the fourth of four children, the eldest of whom had died from meningitis. The child was quite well till seven months old, when a squint was noticed. When eight months old there was some weakness of the right side of the face. The child was otherwise quite well, and when first seen at 10 months of age was a plump, rosy-cheeked child. There were marked external strabismus, double ptosis, and paralysis of all the muscles supplied by the third nerves. The optic discs were normal. There were slight weakness of the right arm and leg and a constant rhythmical movement. The cerebro-spinal fluid was found to contain tubercle bacilli, and a vaccine gave a positive reaction. The paralysis gradually extended, and the child died three months later. Optic neuritis never developed. The necropsy showed a tuberculous mass occupying the region of the corpora quadrigemina and tegmentum. From the symptoms—i.e., the ophthalmoplegia associated with a rhythmic tremor—it was possible to arrive at an accurate diagnosis as to the situation of the lesion, and from the examination of the cerebro-spinal fluid an accurate diagnosis as to the nature of the lesion.

Mr. M. S. MAYOU showed a case of Congenital Anterior Synechiæ with Buphthalmos. The patient, a male, aged 7 weeks, was strong and healthy, and showed no signs of syphilis. He obviously had very bad vision, but could see bright lights. There was well-marked nystagmus, and the right eye had obvious excentric fixation for objects, but, as far as could be seen by focal illumination and ophthalmoscopical examination, presented no pathological change. The left eye was blind. It had the appearance of buphthalmos with iris bombé. The iris was closely applied to the back of the cornea and at the pupillary margin it had not separated off from the corneal tissue and was adherent. Descemet's membrane covered the back of the cornea nearly up to the position where the iris was adherent, but the membrane was entirely absent in the position of the adhesion and over the whole pupillary area. The iris was thin and attenuated, especially in its mesoblastic constituents. The angle of the chamber was imperfectly formed. There had been a failure of the separation of the iris at the angle of the anterior chamber, which was occluded. There was no canal of Schlemm present. The ligamentum pectinatum was very imperfectly formed, and the ciliary muscle ill-developed. The suspensory ligament of the lens was absent. The lens itself was conical anteriorly, and although it was adherent to the cornea there was no anterior polar cataract or even wrinkling of the capsule. Posteriorly there was a large gap in the capsule which was filled in by loose atypically developed fibrous vitreous, into which passed a persistent hyaloid artery with a well-marked nucleated sheath. The hyaloid artery passed backwards from the mass behind the lens to the disc. The choroid was normal. The retina was *in situ* and macroscopically appeared normal, but on microscopical examination the retina in the anterior part of the globe showed a great deficiency in ganglion cells. The rods and cones in all situations were short and imperfectly developed. The optic disc presented a coloboma of the nerve sheath below and a well-marked hyaloid artery coming off from its centre, around which there was some atypically developed fibrous vitreous. There was no cupping of the disc. Although the superficial clinical appearance of the eye before enucleation resembled a pseudo-glioma with secondary glaucoma due to an excluded pupil and iris bombé, the presence of a clear cornea together with the absence of all signs of exudation in the pupil was strongly against the probability of the defect being due to intra-uterine inflammation. The pathological examination further bore this out and showed that the condition was undoubtedly due to mal-development. A failure in the development of the suspensory ligament had taken place. This had led to the ciliary processes remaining adherent to the sides and back of the lens. These processes consisted practically of nothing more than the epiblastic element of which they were composed. The eye increasing in size had pulled the epiblast inwards, so that the situation where the processes were adherent to the back of the lens, the ora serrata, had not formed, and the retina appeared to join it close up to the ciliary processes. The anterior lenticonus was due to the lens being adherent to the cornea in front,

whilst it was held firmly in position behind by the ciliary processes and persistent hyaloid artery and fibrous vitreous. Although the lens was in contact with the cornea, there was no anterior polar cataract, which was against the view that contact alone of the lens with the posterior surface of the cornea was sufficient to produce it. The drag of the ciliary processes had evidently produced a rupture in the posterior capsule, which was subsequently filled by atypically developed fibrous vitreous and accounted for the persistence of the hyaloid artery. The imperfect formation of the retina was of interest in view of the fact that the other eye, although presenting no ophthalmoscopic change, evidently possessed bad vision, as the patient had nystagmus and excentric fixation, and did not take notice of anything but large objects; presumably the retina might be affected by similar changes. That intra-uterine buphthalmos could occur was important in view of the fact that cases had been recorded of congenital anterior staphyloma in which perforation had apparently taken place immediately before birth.

The following specimens were shown:—

Mr. M. L. HEPBURN: Hæmorrhage at the Macula.

Mr. N. BISHOP HARMAN: Multiple Superficial Atrophic Areas of Irides in Old Kerato-iritis of Inherited Syphilis; also Exophthalmos and Facial Deformity (as in Oxycephaly) without Deformity of the Skull-cap.

Mr. C. S. BLAIR: Peculiar Retinal Changes.

Mr. A. W. ORMOND: A case of Lacrymal Tumour.

Mr. J. H. TOMLINSON: Scotomagraph with Stereoscopic Fixation.

Mr. G. WINFIELD ROLL: Sarcoma of Choroid (with microscopic sections).

Mr. PRIESTLEY SMITH: A new Simple Ophthalmoscope.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Rich Protein Diet in Relation to Gout and the Thyroid Gland.—Prostatism.—Blood Pressure in Anæsthesia.

A MEETING of this society was held on Feb. 2nd, Dr. BYROM BRAMWELL, the President, being in the chair.

Dr. NORMAN WALKER showed the following cases:—1. A young woman having on her right forearm a Self-inflicted Rash which had given rise to great difficulty in diagnosis previous to her admission to the hospital; the lesions had been produced with pure carbolic acid. 2. A case of Xeroderma Pigmentosum to illustrate the beneficial effects of carbonic acid snow; many of the lesions had disappeared.

Dr. R. CRANSTON LOW showed a case of Spreading Angioma in a young lad. After an accident a red spot appeared on the left cheek and continued to spread for 12 months. The lesions looked like port-wine stains. Carbonic acid snow had been applied all over the spots for 30 seconds at a time and already marked improvement had taken place.

Professor F. M. CAIRD showed the following cases:—1. A young girl from whose stomach a large Hair-ball had been removed by gastrotomy. The history was that the child, when aged two years, began to pull out her hair and chew it, but that this practice stopped at the end of the fourth year. 2. A woman, after operation for the closure of a Biliary Fistula. In 1907 the patient was admitted to hospital suffering from intermittent gastric pain, constant vomiting, with drowsiness and pin-point pupils. A diagnosis of acute pancreatitis was made. On performing laparotomy the pancreas was found to be in a condition of acute inflammation, with fat necrosis. The pancreatic tissue was broken up and a drainage-tube was inserted. The gall-bladder was found to be filled with calculi. The patient made a good recovery after passing through a very anxious time, transfusion being required twice, and the stomach had also to be washed out on two occasions. The sinus healed and reopened several times, but latterly a mucous fistula alone remained.

Dr. D. CHALMERS WATSON read a paper entitled "A Rich Protein Diet in Relation to Gout and the Thyroid Gland." He commenced with a reference to the results of his earlier investigations into the effect which an exclusive meat diet administered in an uncooked form produced on the structure of the tissues, notably the thyroid gland, the kidneys, and the mucous membranes. The structure of these tissues was as a rule modified by the diet; some of the modifications were acquired by the offspring, and were in them associated with an increased susceptibility to disease. He then referred to the adverse criticism that had been directed to his results and the conclusions drawn from them, both from the clinical and experimental standpoint. Clinicians had objected to any deductions being drawn from the results obtained in animals because the diet employed was so dissimilar to any diet used by man. A reply was given to these criticisms in the result of a further series of investigations into the effects of a rich protein diet on the thyroid gland in the first, second, and third generations of animals. The diet employed consisted of ox flesh, lentils, and bread and milk, the two former predominating, the control diet being bread and milk in known proportions. The special diet was cooked before administration. The results fully confirmed, and at the same time amplified, Dr. Watson's previous results. The rich nitrogenous diet at first stimulated and afterwards tended to exhaust the thyroid gland. Dr. Watson said that gout was essentially a disease of protein metabolism. Gouty subjects were, in his view, specially subject to a particular type of auto-intoxication or infection which was responsible for various gouty symptoms. This susceptibility was in turn dependent on the particular diathesis or soil, which had as one of its distinctive features a special type of thyroid activity. Reference was made to the apparent anomaly seen in the case of gouty subjects whose symptoms were relieved by cutting off farinaceous foods and increasing the protein. Many cases of this kind had been under Dr. Watson's care and had been specially studied by him. These were, in his opinion, cases in which, in addition to a probable thyroid defect, there was a certain pancreatic disturbance, as was proved by the existence of a pronounced pancreatic reaction in the urine.—Dr. WILLIAM RUSSELL said that it was difficult for him to accept the proposition that a modification of thyroid activity had a special effect in producing gout. The important effects of over- or under-action of this gland on metabolism were well known. As regarded proteid feeding and its influence on the thyroid gland, free proteid feeding stimulated the liver and kidney activity as well as the adrenals and perhaps the seminal vesicles.

Mr. DAVID WALLACE read a paper upon Prostatism, a Consideration of its Treatment, together with Notes on the Fatal Cases after Prostatectomy occurring in the last 50 patients operated on by him. He said that symptoms similar to those associated with enlargement of the prostate were met with in patients in whom the prostate was not enlarged, and, further, that no one method of treatment was applicable for the relief of prostatism. The chief object of his paper was to direct attention to conditions in which prostatectomy was difficult or unsuitable as a means of relief to the patients who suffered from symptoms similar to those produced by simple enlarged prostate. He first considered when excision of the prostate was indicated, and deprecated the use of the catheter as a means of determining this by the amount of residual urine. He believed that early operation was justifiable and to be advocated, but pointed out that many patients with enlarged prostate lived for years without any discomfort or injury to health. In his opinion early operation should be advised in those patients who were partially disabled by the condition, or were progressively getting worse, or who had complications in spite of palliative treatment, such palliative treatment not to include the use of the catheter. The oldest patient upon whom he had operated was 90 years of age and made an excellent recovery. The class of patient he most dreaded for operation was that in which the bladder had been much over-distended for a long period and in which catheterisation had not been used. He believed that in such cases the use of the catheter or continuous drainage prior to operation for some time was advisable, the surgeon being ready to operate at once if any indication of sepsis arose. In cases where the prostate was not felt to be large per rectum it was often believed that an intravesical growth might be the cause of the symptoms and if residual urine was found operation was advised. In such cases he believed cystoscopy should be used, as not infrequently the condition was due to contracture of the neck of the bladder produced by a fibrous stenosis. There was no prostatic growth to remove and most probably the best treatment was that recommended by Chetwood—a perineal cystotomy and division of the fibrous area with a galvano-cautery. Malignant disease was commoner than was usually supposed

—in his practice 1 to 10 of simple enlargement. The presence of pain, slight incontinence, and hardness and fixation on rectal palpation, even in early cases, were the points which should put the surgeon on his guard in giving a diagnosis. In these cases he believed that an operation with a view to eradication of the disease had not yet been justified, and recommended palliative treatment, more particularly a suprapubic cystostomy. This treatment had given in two cases under his care not only great comfort to the patients but he believed prolonged their lives.—Professor F. M. CAIRD said that he had not such a dread of using the catheter as Mr. Wallace seemed to have, although he knew that Sir James Paget had said that the first use of a catheter sealed the fate of many a man. Many patients got along very well with the use of the catheter.—Mr. ALEXANDER MILES made the remark that there had been no death from embolism in Mr. Wallace's cases. He had met with three deaths from this accident. He had seen several cases of prostatism without enlargement of the prostate. In such he practised slitting the prostate in the backward direction and leaving in a tube until the wound healed was the best method.—Dr. BYROM BRAMWELL and Mr. J. W. STRUTHERS also spoke.

Mr. WILLIAM GUY, Dr. ALEXANDER GOODALL, and Dr. H. S. REID made a communication on the Blood Pressure in Anæsthesia. Dr. Goodall said that an anæsthetic which affected the blood pressure but slightly was *ceteris paribus* to be preferred. The blood pressure might be lowered by depression of the heart, which might be due either (1) to vagus inhibition by direct stimulation of the centre by the drug or by reflex stimulation through afferent nerves, or (2) to weakening of the cardiac muscle. It might also be lowered by dilatation or paralysis of the blood-vessels. The blood pressure might be raised by stimulation either of the heart or of the vaso-motor centre. The objects of the research were (1) to observe and compare the effect produced on a systolic pressure by the administration of various anæsthetic agents; (2) to note any variations in the effect produced by different methods of administration; and (3) to ascertain the conditions favourable to the production of the minimal disturbance of systolic pressure during the induction of anæsthesia. The anæsthetics employed were chloroform, ether, nitrous oxide with rebreathing, nitrous oxide with regulation by valves, nitrous oxide preceded by oxygen, nitrous oxide and ether in sequence, ethyl chloride, gas and ethyl chloride in sequence, and, finally, oxygen, gas and ethyl chloride in sequence. Observations were made with Martin's modification of the Riva-Rocci sphygmomanometer. A foot bellows was found to give a much more steady increase of pressure than the ordinary rubber bulb. Chloroform caused a considerable and fairly uniform fall of systolic pressure. Nitrous oxide caused a constant rise of systolic pressure, but this was more marked when the exhaled air was passed out through valves. When the patient was allowed to re-breathe his expired air there was no practical difference in the available anæsthesia, but the systolic pressure did not rise so high. This was explained by the lessened element of asphyxia. An endeavour had been made to eliminate asphyxial symptoms by the use of oxygen. It was found that the inhalation of one gallon of oxygen before the administration of gas by the rebreathing method altogether eliminated asphyxia, and the blood pressure hardly rose at all. At the same time the period of available anæsthesia was only slightly curtailed. Ethyl chloride caused very great disturbance of the systolic pressure. Whether it would cause a rise or a fall in any given case could never be predicted. The common result, however, was a marked fall, and with doses of five cubic centimetres or more the fall of systolic pressure was sufficient to be dangerous to life. This fall of pressure was ascribed to inhibition of the heart. A remarkable finding was that the fall of pressure did not occur after the previous administration of five respirations of nitrous oxide. The depressor effect was entirely eliminated, and there was uniformity of effect in degree and time. The initial administration of gas appeared to depress the activity of the vagus inhibitory centre and made the subsequent administration of ethyl chloride a much safer proceeding The effect then produced was a constant rise of pressure which was attributed to asphyxia. It was found that a gallon of oxygen inhaled before the gas and ethyl chloride had the effect of preventing asphyxial symptoms and the blood pressure became practically stationary throughout the anæsthesia. In this case the oxygen did not lead to any diminution of the period of available anæsthesia.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 4th, Mr. C. Gordon Watson, the President, being in the chair.—Dr. T. G. Stevens read a paper on the Present Position of Cæsarean Section in Obstetrics, making occasional references to five cases on which he had operated successfully, as regards both mothers and children. He said that Cæsarean section was not an operation of choice when a woman had been many hours in labour with ruptured membranes, and particularly when repeated attempts had been made to deliver her by the natural route. Attempted delivery by forceps or other means might cause infection of the uterine contents and to perform the Cæsarean operation in these circumstances was usually courting disaster. On the other hand, infection of the uterine contents did not readily occur if there had been no manual or instrumental interference, and the mere fact of labour having been in progress for some hours under such conditions did not necessarily add to the risk of the operation. The gradual acceptance of the axiom that it was "unjustifiable to perforate a living child" had led to an extended use of the Cæsarean operation. The indications for it were pelvic contractions, tumours obstructing delivery (especially carcinoma of the cervix), cicatricial contraction of the vagina and cervix, neglected malpresentations, eclampsia, absolutely central placenta prævia with an undilated os, and concealed accidental hæmorrhage. When the pelvis had a diagonal conjugate measurement of 2½ inches or less it was impossible to deliver a full-time child alive, and with a measurement of 2 inches or less it was equally impossible to deliver a full-time child dead and mutilated without grave danger to the mother. The safest time to perform the operation was just before the full term of pregnancy before labour began or just at the commencement of labour, no vaginal examination having been made. There was no added risk if the patient was not in labour; the uterus appeared to contract strongly and well if suddenly emptied; in fact, it contracted better than if labour had been in progress for several hours.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Jan. 27th, Dr. Thomas R. Bradshaw, the President, being in the chair.—Dr. R. J. M. Buchanan read a paper on the Symptoms and Treatment of Duodenal Ulcer. He referred to the symptoms of the disease under the headings of (1) latent ulcer, in which a hæmorrhage or a perforation, or both, might be the first indication of a lesion in the upper alimentary tract; (2) suspected ulcer with a series of premonitory and intermittent symptoms which might last over a period of months or years; and (3) symptoms associated with the chronic and well-established disease. He discussed the symptoms of pain, its position, its time relation to food, to the kind of food ingested, and its relation both to the position of the ulcer and to spasm of the pharynx. In the physical examination of the abdomen palpation with the patient in a hot bath was recommended when there was difficulty owing to spasm of the rectus muscle. Treatment by rest in bed, combined with a strict adherence to a diet consisting of animal proteid and the administration of normal serum for a prolonged period, was advocated. In cases where operation was called for he advised a course of proteid diet and serum first, and that it should be resorted to as soon as possible after operation and adhered to for some time.—Mr. Keith W. Monsarrat read a paper on the Indications for Operation in Gastro-duodenal Ulceration and on the selection of the operation to be performed.—The President remarked that Dr. Buchanan had not offered any explanation of the cause of the peptic ulcer and it still remained unexplained. He confessed that in most cases he was unable to distinguish clinically between gastric and duodenal ulcers.—Mr. W. Thelwall Thomas drew attention to the difficulty of distinguishing a lesion of the stomach or duodenum from one of the gall-bladder. The sensory nerves distributed to these structures were the same and it was known that the viscera were practically insensitive to ordinary sensations. The best treatment of hæmorrhage was absolute starvation. He doubted the utility of drug treatment and considered that the treatment of duodenal ulceration was essentially surgical.—Mr. George P. Newbolt said that he was not

in favour of gastro-enterostomy as a routine practice in perforated duodenal ulcer; in many cases it was not necessary.—Dr. Charles J. Macalister referred to the probable toxic origin of gastric ulcer as indicated by the long-continued prodromal symptoms which occurred in most cases.—Dr. John Hay referred to a patient who had suffered from recurring melæna and symptoms of duodenal ulcer. He was relieved temporarily by gastro-enterostomy, but two years later the abdomen had to be opened again on account of most serious hæmorrhage. The enterostomy opening was found to have closed, the patient died, and no lesion could be found in the œsophagus, stomach, or intestines to account for the fatal hæmorrhage.

Reviews and Notices of Books.

The Practice of Surgery. By WALTER GEORGE SPENCER, M.S., M.B. Lond., F.R.C.S. Eng., Surgeon and Lecturer on Surgery, Westminster Hospital; Member of the Court of Examiners, Royal College of Surgeons, England; late Examiner in Surgery at the University of London; and GEORGE ERNEST GASK, F.R.C.S. Eng., Assistant Surgeon and Demonstrator of Practical Surgery, St. Bartholomew's Hospital. With 20 Colour Plates, 28 Skiagram Plates, and 707 Black and White Illustrations. London: J. and A. Churchill. 1910. Pp. 1234. Price 22*s.* net.

THE "Surgery" written by the late Mr. W. J. Walsham enjoyed for many years a wonderful popularity amongst the students of the United Kingdom, for it included just what was required for the ordinary examinations in surgery and yet did not contain much more than was needed. During Mr. Walsham's life eight editions of his "Surgery" appeared. In the ninth edition Mr. Walter Spencer was responsible for much of the contents, and now in this volume, which is practically a new book and yet theoretically the tenth edition of Walsham's "Surgery," we have a work in every way calculated to satisfy the wishes of those who are studying surgery. It is often more difficult to rejuvenate a book, which from its very age may be suspected of lagging behind the times, than to write a new work on the same subject. But we should have regretted the demise of so well-known a friend as Walsham's "Surgery." The names of the editors or authors, as they must really be considered, are sufficient to guarantee that the book has been brought thoroughly up to date without the sacrifice of any of those qualities for which the original work was esteemed. One of the most noteworthy points of modern medical literature has been the improvement in the illustrations, and this matter has by no means been neglected in the present book, for many of the older illustrations have been withdrawn and have been replaced by others more accurately representative of the objects and structures that they are intended to portray. The introduction of 20 coloured plates is a valuable innovation, and we can speak with the greatest praise of the excellence with which these coloured plates have been produced. We do not remember ever to have seen more satisfactory coloured illustrations in a work on surgery.

The science of surgery has of late years grown enormously, and this is true whether we consider the complete science itself or that portion of it a knowledge of which is required from the average student at his final examination. A comparison of the present work with the first edition of Walsham's "Surgery" will give a striking proof of this enormous increase, but great though the increase is we have not been able to find in the present volume anything that might usefully, or even safely, have been omitted. To test the value of a text-book it is well to examine some of the points in which students are known to find special difficulty, and a scrutiny conducted on this principle has shown us that the authors are skilled teachers and able to appreciate the wants of their readers. In the account of the treatment of wounds a wise middle course is steered between the claims of antiseptic as opposed to aseptic surgery, the inclination being a little towards the reasonable use of antiseptics. A very useful chapter is that on the examination of the blood for surgical purposes, a matter of increasing moment every year. The section dealing with injuries to the bones is good, and the skiagrams illustrating it, which have been taken by Dr. Hugh Walsham, are especially worthy of praise. We are told that in case of fracture of the radius above the insertion of the pronator teres the position of full supination is too irksome to the patient. This is not universal experience, and while the great difference which accurate union of the bone in this fracture makes to the use of the limb would fully justify no small amount of discomfort, as a matter of fact, a very few hours generally suffice to remove all irksomeness. In the account of intracapsular fracture of the neck of the femur we still find the diminished obliquity of the neck of the bone given as one of the predisposing causes; even if this change of angle does occur it is not easy to see why it should predispose to a fracture. The weakening of the bone with age is fully sufficient to account for its giving way. Mr. W. H. Jessop has contributed the chapter on the surgery of the eye, and some excellent coloured illustrations of the fundus are provided to make comprehension simpler of a difficult but well-written section. Mr. C. E. West's account of the diseases of the ear contains all that could be wished, and especially good is the account of suppuration of the middle ear. The chapter on diseases of the bladder is furnished with 12 coloured cystoscopic pictures provided by Dr. David Newman. They give a very clear idea of some of the more common morbid vesical conditions, as readers of THE LANCET know.

We have made a careful examination of this book and we are satisfied that it will prove useful and sufficient for the student. The style is simple while the type is clear, and we feel sure that any who employ it as their text-book in the preparation for an examination in surgery will not regret their choice. The printing of the volume and of the illustrations is worthy of the publishing firm from which it emanates, and the price at which it is issued must be considered moderate when the size of the book and the number of its illustrations are borne in mind. A satisfactory index is provided.

Infectious Diseases: a Practical Text-book. By CLAUDE BUCHANAN KER, M.D. Edin., F.R.C.P. Edin., Medical Superintendent, City Hospital, Edinburgh, &c. London: Henry Frowde and Hodder and Stoughton. 1909. Pp. 555. Price 20*s.* net.

THE subject matter of the volume before us is based on the author's experience in the wards of the Edinburgh City Hospital, into which are admitted, not only the notifiable diseases, but also minor infectious ailments, such as mumps, chicken-pox, and rubella, as opportunity occurs. It is written from a practical point of view and does not deal to any great extent with the literature of the subject. The introductory chapter treats of the general features of infective disease, such as toxins, immunity, the course of fever and its management, diet, and prophylaxis. With regard to the stage of incubation, the author rightly states that little is known as to the nature of this period or of its relation to the subsequent onset. He holds that the latter corresponds with the first out-pouring of toxins into the blood; but it is difficult to believe that the germs have been multiplying in the tissues so far without producing any poisons, and we are inclined to think that some connexion will ultimately be found to exist between the peculiar phenomena called anaphylaxis and the incubative period. The second chapter deals with measles, and is illustrated by a particularly

successful coloured plate of a child suffering from the disease. We venture to ask whether anything is gained by prefixing as a definition of the malady the words "specific infectious eruptive fever." The very same words are used to define rubella and scarlet fever, so that the definition is not even a description of the disease in question. It gives at most the *genus* and not, as the old logicians would have said, the *differentia*. Probably, however, diseases being bodily conditions do not admit of more than description, except in relation to their efficient cause. Dr. Ker does not think that measles can be conveyed by the air, nor does he find that uncomplicated cases show hyper-leucocytosis in the blood, as has been described by some writers. He emphasises the value of open-air treatment in the broncho-pneumonia which may occur in this fever. Chapter III. is devoted to rubella and Chapter IV. to scarlet fever. In regard to the latter disease there would seem to exist a family lack of resistance, which leads to severe attacks. We do not quite understand the use of the word "ataxic" as applied to these grave forms, and it seems a pity to use a word usually devoted to affections of coördination to denote some irregularity of fever or course or severity of delirium. Dr. Ker notes the liability to nephritis in mild attacks, and believes that direct draughts of cold air may give rise to this complication. A source of error in diagnosis is noted in the scarlatiniform rash which may occur in varicella. Chapter V. deals with small-pox, the author noting with regret that it should be necessary to treat of this disease in the twentieth century, when it could have been rendered as extinct as sweating sickness or the black death if reason had prevailed over prejudice in the matter of vaccination. The chapter is well illustrated. Vaccinia is discussed in Chapter VI. and varicella in the following chapter; the latter is sometimes not such a mild disorder as it is usually supposed to be and may be followed by nephritis.

Typhus fever claims Chapter VIII. and Dr. Ker confirms the statement that patients suffering from it exhale a characteristic odour; the disease is specially fatal in fat subjects. Here, again, we find the term "ataxic" used apparently for delirious cases. Chapter IX. is devoted to relapsing fever, which we are a little surprised to find included in the volume, as it is scarcely ever seen in this country. We are inclined to ask why plague, cholera, and dysentery are omitted if this is included. Dr. Ker notes that infection may be conveyed to a person who merely enters the room occupied by a sufferer; it therefore does not need the intermediary of a bug or other biting insect for its transmission, as some authors seem to hold. Enteric fever is fully dealt with in Chapter X. We should like to take the opportunity here afforded for protesting against the use of the term "coli bacillus" for the bacillus of the colon, the expression suggesting that writers using it do not realise that *coli* is meant to be the genitive case of *colon*, but we fear that the term, vouched for by brevity, has now become accepted pathological English. Diphtheria occupies Chapter XI., and is well described and discussed. Dr. Ker does not advocate the use of the enormous doses of antitoxic serum employed by some authorities, but advises the repetition of smaller quantities as they are required. This is pre-eminently sane counsel. Good illustrations are given of the causal organisms of diphtheria and of Vincent's angina, and also of the pseudo-diphtheria bacillus. Whooping-cough, erysipelas, mumps, and cerebro-spinal meningitis are dealt with in the remaining chapters of the book, a final word being devoted to special problems which arise in connexion with fever hospital administration, such as "return" cases and super-infection of a patient with a second specific fever.

We congratulate Dr. Ker on the preparation of an authoritative and valuable book. It is clearly the work of a skilful, observant, and experienced physician, and may be cordially commended to all practitioners for the useful practical advice it contains, both as to diagnosis and treatment. The style is clear and easy; here and there perhaps it is unduly colloquial, as in such expressions as "frequent tepid sponges" for sponging, "nasty instances of collapse," and "a decent view of the throat." We do not know what is the authority for the spelling "periphere" for periphery (*περιφέρεια*). We have only one fault to find with the book—it is heavy and cumbrous to hold, and the lines of type, measuring nearly seven inches in width, are trying to the eye. The paper and print are good, and the illustrations, as already noted, are generally of high merit.

Small-pox and Vaccination in British India. By S. P. JAMES, M.D. Lond., D.P.H., Major, Indian Medical Service; Statistical Officer to the Government of India in the Sanitary and Medical Departments; formerly with the Royal Society's Malaria Commission in India. With 14 diagrams. Calcutta: Thacker, Spink, and Co.; London: Thacker and Co. 1909. Pp. 105. Price 7*s.* 6*d.*, or 6 rupees.

IN all European countries where vaccination against small-pox has been extensively carried out an appeal to the figures of small-pox mortality has given in favour of vaccination an answer as unequivocal as it is satisfactory, and it is therefore of great interest to ascertain whether a similar answer holds good for a country like India where the difficulties attending the introduction as well as the progress of vaccination, owing to religious and other prejudices, have been enormously greater than in Europe. Major James, from his official position as statistical officer with the Government of India in the Medical and Sanitary Departments, knows these difficulties well and states them concisely. The population amongst whom vaccination has to be carried out is more than 230,000,000, and the extent of country is more than 1,000,000 square miles. About 214,000,000 of the people live in places where vaccination is optional, and as recently as 1901 not more than 5 or 6 per cent. of them could read and write their own language. The great majority of the people, while being exceedingly ignorant and childish, are apathetic, and regard the dangers of future events as "Kismet," or the will of God. It is also characteristic of nearly all natives of India to be suspicious of any measure not sanctioned by the custom of ages. From very early times there has existed in India the worship of a goddess of small-pox, and a visitation of the disease is regarded by some as being favoured by the goddess. Brahmin inoculators, who spread the disease by direct inoculation, discredited vaccination by Government officials as they lost their fees, and, having great influence with the people, were violent opponents. In the early days of vaccination the difficulties of providing a constant supply of good vaccine were almost insuperable, and even at the present time vaccination operations in most provinces can only be carried out during the cold season. On account of the great expense it has not been possible to employ a skilled medical agency in the actual work of vaccinating, and for many years the only vaccinators who could be obtained were entirely illiterate, very ignorant, and wholly untrustworthy.

Major James handles his subject well and produces well thought out statistical and other proofs to show the value of vaccination in circumstances where the procedure has everything against it. He details an interesting deduction from the knowledge that small-pox in its natural unmodified form very frequently results in permanent blindness—in England during the last half of the eighteenth century fully two-thirds of the applicants for relief at the Hospital for the Indigent Blind owed their loss of sight to small-pox. He tells us that the numbers of totally blind people

in British India in every million of the population in 1901 were 1340, and in 1881 there were 2330. If the latter had been the rate in 1901 there would have been no fewer than 533,368 blind people in India in that year, while as a matter of fact there were only 310,557 blind people. This rescue of a large number of people from the dreadful infirmity of total blindness, and thus in all probability from beggary, has been brought about in chief part by the diminution of small-pox in India.

Major James has given us a striking essay, and its perusal can be recommended to all interested in the value of vaccination.

Applied Surgical Anatomy, Regionally Presented for the Use of Students and Practitioners of Medicine. By GEORGE WOOLSEY, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College. Second edition. With 200 figures, including 59 plates, mostly coloured. London: Henry Kimpton. 1909. Pp. 601. Price 21*s.* net.

THIS book is clearly written, easily understood, well illustrated, and prepared with care. Neither in the text nor in the illustrations is there a mark of individuality; the facts and the figures are, as the author claims for them, a careful selection from the modern aggregate of anatomical knowledge. We hoped to find—nay, it was to be expected—that there would be in this work some reflections of the movements affecting the transatlantic schools of anatomy and surgery, but were it not for the title page one could not guess from the context that this book is not a home product, so cosmopolitan has our stock of knowledge become.

Professor Woolsey's work has deservedly reached a second edition, but it is not an ideal book of applied surgical anatomy, for reasons which it is incumbent upon us to give in support of the opinion. Like many of the treatises published under this name it is a rather loose mixture of anatomical description, surgical procedure, and pathological hypothesis. Hilton's "Rest and Pain" comes nearest to the ideal of such a work, but unfortunately Hilton's explanation of referred pains, on which so much of his book depends, has proved too crude in the light of further clinical observation. At any rate, that has been found to be so in England, but the explanation offered by Professor Woolsey of the various forms of pain connected with disease of the abdominal organs is that offered by Hilton—a communication between the sympathetic plexuses and the cutaneous nerves of the body wall. Even Hilton occasionally goes rather far afield to find explanations for anatomical facts, as when he ascribes to the middle layer of the cervical fascia the function of keeping the lungs from pressing on the heart, which Professor Woolsey cites, evidently with approval. Mechanical explanations of morbid conditions are on every occasion preferred to an explanation based on a derangement of function or of growth. The following instances may be cited from this work. Congenital dislocation of the hip is ascribed to deficient formation of the iliac part of the acetabulum; spina bifida to a congenital defect of the vertebral canal; epispadias to a failure in the formation of the roof of the urethra; and flat foot to a yielding of the ligaments of the arch of the foot. All of these are explanations which will not suffice the thinking reader.

We are especially surprised that an American author should have been content to give an altogether antiquated account of the manner in which the abdominal and pelvic viscera are maintained in their normal positions. The uterus is regarded as kept up by atmospheric pressure, assisted by certain peritoneal folds and muscular ligaments. No mention is made of the fibrous supports derived from the pelvic fascia nor of the action of the pelvic diaphragm. The kidney is regarded as kept up by the fat bed in which it lies, but no allusion is made to its normal respiratory movements; the liver is regarded as suspended from the diaphragm by venous, fibrous, and peritoneal attachments, no mention being made of the support derived from the belly wall through the other abdominal viscera. The action of the musculature of the body wall receives the briefest notice. We find ultra-refinement in the details of applied anatomy, sometimes coupled with the omission of an important point. The student is advised to spare the arteries to the parathyroid bodies—arteries which are difficult to find and see in a specially prepared cadaver, while in the operation for varicocele he is not warned that the spermatic artery may be ligatured along with the veins. The frequency of appendicitis is explained by the usual double assumption that the appendix is a vestigeal organ and that vestigeal organs are very liable to inflammation—assumptions which, although widely accepted, have no basis in fact. Coxa vara is regarded as a lesion due to rickets in adolescents—a hypothesis that will not find universal support.

Perhaps all these are rather the faults of text-books in applied anatomy in general than of this one in particular, so that in a way Professor Woolsey could find authority for all of what he has written. But opportunities of the interchange of knowledge are now so frequent that it behoves every author of a systematic work to test his general statements rigidly, lest he should, if only out of reverence for his predecessors, be perpetuating errors. Yet we are happy to end as we began by saying that the book is on the whole a good one.

International Clinics. A Quarterly of Illustrated Clinical Lectures and especially prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, and Hygiene, by Leading Members of the Medical Profession throughout the World. Edited by W. T. LONGCOPE, M.D., Philadelphia. Vol. II., Nineteenth Series, 1909. London and Philadelphia: J. B. Lippincott Company. Pp. 300.

THIS volume of these well-known Clinics opens with an excellent article on Immunisation against Typhoid Fever, a study of preventive inoculation, by Dr. Harlan Shoemaker of Philadelphia, who pays a full tribute to the inventive genius of Sir A. E. Wright. The statistics brought forward are most convincing of the great benefit of the proceeding, and bring out the important fact that those inoculated once suffer more than those inoculated twice, and the latter more than those inoculated three times. With regard to the duration of immunity, it would appear that this is lost one year after the inoculation; other points are that complications are twice as frequent amongst the uninoculated, and that the course of the disease is much more favourable amongst the inoculated. The experience in India is also in the same direction. This valuable article also deals with the preparation of the vaccine, its preservation, and its mode of administration. Dr. L. Louis Fletcher contributes an excellent lecture on Pneumonia in Children, which is followed by one on Psychasthenia by Dr. Bradford C. Loveland. In his lecture on Tuberculous Sero-fibrinous Pleurisy Dr. Herman B. Allyn goes very thoroughly into the question of diagnosis and draws especial attention to the value of Grocco's sign; he regards this sign, together with the moveable dulness and displacement of organs, as the three most trustworthy evidences of fluid in the pleural sac. The author holds the tubercle bacillus to be the cause of pleurisy in from 40 to 60 per cent. of all cases.

Dr. F. Parkes Weber contributes an excellent article on Congenital Familial Splenomegaly with Chronic Acholuric

Jaundice. This is followed by Dr. Edward F. Wells on Diabetes, who points out that glycosuria and diabetes are not synonymous terms. The different tests for sugar in the urine that he has found most satisfactory are Haines's test, the phenylhydrazine, Rubner's, the fermentation, Purdy's, Legal's, Gerhardt's, and the polariscope tests. All are succinctly described. The article concludes with the diagnosis, prognosis, and treatment of the disease. The author describes various diets—viz., the diagnostic, a strict routine, and a moderate routine diet. For coma, when it has developed, he recommends bleeding the patient to from 24 to 32 ounces, then introducing intravenously an equal amount of a 2 per cent. solution of bicarbonate of soda in normal salt solution, and repeating this in a few hours.

In the section on Surgery we find a full and complete article on Congenital Idiopathic Dilatation of the Colon, by Mr. P. L. Daniel, and on Surgical Pneumothorax as a Treatment for Phthisis, by Dr. F. Dumarest. Next to these comes an excellent *résumé* of the present status of the Cammidge Reaction by Dr. Edward H. Goodman, who presents us with a compilation of recent work along clinical, chemical, and experimental lines. As the result of his review of the subject Dr. Goodman concludes, amongst other points, that the clinical value of the reaction seems assured, that it is almost constantly associated with lesions of the pancreas, and that, although the test is not pathognomonic, yet, taken in connexion with the clinical history and other laboratory findings, it is strongly suggestive of pancreatic disease.

Dr. H. Schwatt follows with an article on the Treatment of Abscess in Hip Disease, with a report of cases, in which he details the general consideration of the question of infection with pyogenic organisms. With regard to the question of prompt evacuation as soon as a tuberculous abscess becomes palpable, he thinks that there is no rational explanation of any advantages to be derived from indiscriminate operative interference, and that the procedure must be considered as unsound and dangerous for the following reasons: a considerable number of these abscesses remain quiescent and become aborted; retention of the caseous material does not impede the progress of repair, nor does evacuation of pus promote the progress to recovery; and the sterile abscess does not constitute a grave danger in well-managed cases. He regards absolute non-interference as a more rational mode of procedure than indiscriminate operation, although the former is by no means applicable to all cases. The various methods of operation where this is carried out are described, and then this exhaustive paper concludes with a summary of cases. This article will well repay perusal.

The other departments of medical science and practice receive their due acknowledgment, and the volume concludes with an excellent chapter on the Pathogenesis of Spontaneous Cerebral Hæmorrhage, by Dr. A. G. Ellis.

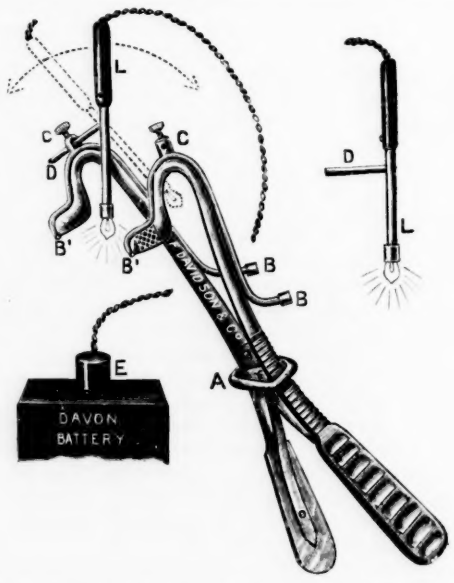
Text-book of Diseases of the Nose, Throat, and Ear, for the Use of Students and General Practitioners. By F. R. PACKARD, M.D., Professor of Diseases of the Nose, Philadelphia Polyclinic Hospital and College, &c. London and Philadelphia: J. B. Lippincott. 1909. Pp. 369. Price 15*s*.

THE first chapter of this useful work is devoted to the methods of examination of the nose, throat, and ear, and the next to the application of remedies to diseased conditions. Under the former we have a brief dissertation on tuning-fork reactions, consisting chiefly of descriptions of well-known tests. The advice that in introducing a laryngeal mirror it should be carried back until its "tip is beyond the uvula" seems a little difficult to comprehend. The warning that unless care be taken when using hydrogen peroxide in suppurative otitis media some purulent material may be driven into the mastoid cells is possibly called for, but certainly some indication should be given as to suggested precautions. The description of the anatomy of the parts contains some interesting matter; but the note that the anastomosis between the veins in the anterior part of the nose and those of the integument affords the explanation of the redness of the nose seen in congestive disorders of the nasal chambers should have been placed under diseases of the nose. The cricoid is spoken of as the keystone of the larynx, whereas a keystone is only found in an arch. Under diseases of the nasal mucosa atrophic rhinitis is spoken of as an inflammatory disease, and we are told that when aural trouble is associated with it the outcome is occlusion of the tubes, the "result of nasal obstruction," a condition not frequent in atrophic rhinitis, to say the least of it. While it is easy to make critical remarks on details we see that when the author has spent a little time in correcting the minor errors, which are so freely scattered through this book, he will render it a useful guide to the post-graduate; at present it misses this object, possibly on account of the want of a friendly proof reader and a little rigid editing from the author.

New Inventions.

AN ILLUMINATING MOUTH GAG.

TWO difficulties with which the surgeon may have to contend when operating inside the mouth are the want of space and light. The first of these is obviated by Hewitt's ingenious device of carrying the chloroform tubes along the



Hewitt's mouth gag with electric light. A, Moveable ring for fixing arms of gag. B B, Tubes for conveying chloroform into the mouth. B' B', Openings of chloroform tubes inside the mouth. C C, Sockets with clamping screws, into either of which the rod D can be placed, so that the light L can be turned either to the right or left. E, Connexion to Davidson's Davon Battery.

arms of the gag, so that a separate tube for the anæsthetic is not required, and the surgeon can therefore have all the space inside the mouth to himself. To overcome the second difficulty I have had attached to Hewitt's gag (which not only by virtue of its chloroform tubes, but in other respects,

I consider to be the best of all mouth gags) a little electric light. This is so arranged that it can be fitted to either arm of the gag and turned to the right or left side as required, and it enables the surgeon to get a good view of the whole of the inside of the mouth. The light is supplied by the "Davon" battery, which is an extremely handy and portable form of battery, and which lasts about ten hours. Being removeable it enables the whole of the gag to be sterilised by boiling. The accompanying illustration shows the main features of the gag as thus modified, and I need only add that Messrs. Davidson and Co., of 29, Great Portland-street, W., having taken the greatest pains, have been most successful in carrying out all the suggestions I have made to them in regard to it.

Wimpole-street, W. CECIL H. LEAF, F.R.C.S. Eng.

A RUBBER CUP PESSARY.

THE figure illustrates a very useful pessary, a rubber cup with vulcanite stem which Messrs. Allen and Hanburys have made for me. It is more easily introduced than the vulcanite cup and it gives more to the movements of the

body. The all-rubber instruments are apt to double up with a heavy uterus. I have used these pessaries for some years and have found them most satisfactory.

J. H. DUDGEON, L.R.C.P. & S. Edin.,
Honorary Surgeon, Workington Infirmary, Cumberland.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 11th, 1832.

WESTMINSTER MEDICAL SOCIETY.

Saturday, February 4, 1832.

Dr. SIGMOND in the Chair.

CLASTIC ANATOMY.

PROPOSALS TO TEACH ANATOMY BY MEANS OF SOLID PIECES CAPABLE OF BEING MOUNTED AND DISMOUNTED.

THE attendance at this Society is very variable, sometimes flagging for two or three successive evenings, when the room of meeting again becomes crowded with members and visitors. The assemblage to-night was very numerous: the "Anatomy Petitions" lay on the table for signature, and might have been the cause of attraction. Whatever was the reason, however, few could have departed displeased with the evening's recreation. On entering the room we found preparations making for displaying to the Society a work of art, the ingenious inventor and constructor of which, Dr. Auzoux, was present. This work of art was an ARTIFICIAL HUMAN BODY, which being now brought forward and placed upon its frame, attracted the eager attention of those present.

Mr. COSTELLO, as a friend of Dr. Auzoux, introduced the "subject" with some appropriate remarks.

Amongst the many scientific gentlemen whose minds had been directed to the furtherance of anatomical studies by the construction of artificial bodies, Dr. Auzoux was one who from his youth had seriously entertained the design, which was now brought to so satisfactory a conclusion. It was a singular fact, that the original accomplishers of two grand features in modern surgical improvement, Dr. Auzoux and M. Civiale, were fellow-students, intimate friends, each of whom, however, looked upon the other's peculiar scientific *penchant* as an illusion incapable of realization. After many years of laborious trials and patient investigation, and after presenting to the world two or three specimens, Dr. Auzoux had at length produced the present, which was so accurate in its bearings, and so comprehensive in its details, as to render it of the utmost value to the student and the practitioner, and deserving the attention of the legislature, especially at a time when the question of anatomical study was beset with so many difficulties.

Dr. AUZOUX has taken for his model the frame of an athletic man of tolerable height, the muscles being fully and beautifully developed. The position is well chosen, and, the feet being fixed firmly on a wooden frame work, admits of the manipulation requisite for the study of the figure. The integuments are absent, and the first layer of muscles is exposed to view as if cleanly dissected for a "demonstration." These however are removed separately with the greatest facility, so as to reveal, layer after layer, the various aspects of the parts—muscles, tendons, bones, &c., being coloured after nature. To the different members are attached labels having reference to a synoptical table, bearing the name of the organ, and pointing out the extremity by which the displacement is effected. It afforded us great pleasure to observe the facility with which the *dissection* might be accomplished, and in some parts the *tout ensemble* of the "region" was striking for fidelity of imitation, and, as far as we could observe, perfect accuracy of execution. As instances, the inguinal, abdominal, and cervical regions, may be selected as excellent, whilst the view of the posterior parietes of the chest, the internal structure of the heart, kidney, &c., deserve similar commendation. The textures of the organs have been well imitated, so as indeed not to be mistaken; but in this respect, we think, a much nearer approach may be made to the bona-fide structures of the human body. Not a small advantage of this invention is the durability of the material of which the model is composed. Admitting at first of being moulded into any shape, it acquires the hardness of wood, so as to render the handling of the parts totally free from danger of injury; and the whole figure is constructed of the same composition. Some time was taken up in the exhibitions repeatedly eliciting the warm admiration of the members, which, in conclusion, was testified by an unanimous vote of thanks to Dr. AUZOUX.

Dr. SIGMOND, therefore, in the name of the Society, returned thanks to the talented foreigner, who requested Mr. Costello to express his acknowledgments.

The different pieces of the model require but a few minutes to put them together again, although the parts amount, we believe, to one hundred and twenty-nine.

Dr. AUZOUX, in reply to a member, stated that the price of such a model was 3000 francs, or 125*l*.

Dr. BLICKE thought it incorrect to designate this invention as "new." He had seen the same kind of thing in wax many years ago in Germany and Italy; but (in answer to a query) such preparations were kept in glass cases, though they might be handled on particular request.

A GENTLEMAN observed that he had also seen similar models in Bologna, but by no means so perfect, and in wax.

[Dr. Auzoux's model has just been purchased for the King's College.[1]]

[1] In THE LANCET of May 29th, 1909, p. 1551, an excerpt under the heading of "Looking Back" relating to other "anatomical and obstetric machinery" contained also a short reference praising the anatomical machines invented by M. Auzoux, further particulars of which are now given in the current number of THE LANCET selected from the issue of 78 years ago, of the corresponding month and week.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 12, 1910.

Education and the Sex Question.

EUGENICS and GALTON have become inseparable in our minds, and there can be little doubt of the magnitude of the debt which future communities will owe to Sir FRANCIS GALTON for the perseverance with which he has dwelt upon the duty of taking thought for the quality of offspring. As a matter of fact the word which he chose for the title of his new science was previously well established in application either to mere fertility or to the condition of hybrids capable of breeding, but GALTON'S later employment of it is being sanctioned by usage, and is receiving general assent both in this country and in the United States, where the welfare of future generations is already obtaining even more consideration than among ourselves. But on the practical lines to which we are perpetually calling attention, our Education Department is making the best provision in its power for the promotion of the healthy development both of the minds and of the bodies of the children of our nation; and we are indebted to the more immediate followers of Sir FRANCIS GALTON for the publication of the *Eugenics Review* with its contained definition of eugenics as "the study of agencies under social control that may improve or impair the racial qualities of future generations either physically or morally." The *Eugenics Review* is published by the "Eugenics Education Society," which has its home in the Adelphi, and which puts forth a list of vice-presidents and of council in which the names of many persons of eminent rationality occur. The number before us completes the first volume, and contains an interesting article on Eugenics and Pauperism, by Sir EDWARD BRABROOK; on Education in Sex Hygiene, by President G. STANLEY HALL; on Venereal Disease, by Mr. J. ERNEST LANE; on Eugenic Ideals for Womanhood, by Miss ALICE RAVENHILL; and on Primitive Eugenics, by Mr. A. E. CRAWLEY. There are also certain editorial notes, in one of which at least the writer has suffered enthusiasm to carry him beyond proper limits. He informs us that a certain Bishop is "well known" as "the most enlightened of the Episcopal Bench." We have no doubt of the enlightenment of the right reverend prelate in question, and have nothing but praise for the part which he has taken in the promotion of physical culture, but the degrees of enlightenment which may be claimed for the several bishops are in reality "well known" to nobody, and we entirely dissent from the propriety of an endeavour to award the palm to any individual of an eminently sagacious, venerable, and distinguished body.

The most important paper in the present number of the *Eugenics Review* is unquestionably that upon Education in Sex-Hygiene by G. STANLEY HALL, President of the Clark University, Worcester, U.S.A., which raises the question of how far, and in what manner, children should be instructed in sex questions by parents or teachers. For reasons which we cannot entirely explain, but which are no doubt dependent upon differences in social life or circumstances, or which arise out of the co-education of the sexes, so much more usual in the United States than with us, this question appears to be regarded as a pressing one upon the other side of the Atlantic, and we find strong opinions expressed with regard to it by American medical writers, more especially in a recent work on "Medical Sociology," by Dr. J. P. WARBASSE of New York, surgeon to the German Hospital there. We imagine that, with us, it is usual to allow children of both sexes to grow up with very little direct reference to sex subjects, and that, as far as boys are concerned, they learn almost nothing from the great majority of parents and not much from the well-meant endeavours of many school-masters. But little more is done in the same direction in girls' schools by the teachers, or by the ordinary mother with her daughters; and in this country the education of both sexes is much upon the same level in respect of such matters, so that both girls and boys learn more about sexual relations from other young people than from their elders. Natural or even irrepressible instincts lead to the development of an active curiosity on such questions, and both girls and boys, if the subject be tabooed by their parents or by the elders with whom they are on a social equality, will be likely to seek for information from their contemporaries, when the diffusion of knowledge comes from those boys and girls—much more commonly found in the lower classes—who have been freed from artificial reticence about matters with which an overcrowded home has rendered them precociously familiar. But regarded purely from sanitary aspects, have we any reason to believe that either premature familiarity or delayed knowledge is calculated to exert any calculable influence, either for good or for evil, upon conduct, and through conduct upon health, in such a manner or to such a degree as would require medical practitioners to take a definite side, and to pronounce authoritatively either in favour of or against what may be described as systematic teaching on sex questions? We greatly doubt whether any definite effects are traceable to the conditions of the many respectable cottage homes in which children of both sexes live and play together absolutely without reticence; and no amount of instruction in sexual matters can prevent growing boys from feeling some interest in their sexual development, as in the development of their muscles. How far such conditions lead to evil, and how far it can be prevented by admonition, are both, we think, exceedingly difficult questions; and those who are as apprehensive of the effects of designed instruction in sexual matters as of complete ignorance with regard to them are not without a show of reason. With regard to girls, it is at least certain that they should be prepared for the occurrence of menstruation; and with regard to girls and boys it is clearly

necessary that the necessity for cleanliness be impressed upon them from infancy, but, beyond these two points, we can lay down no general rules. A parent or elder brother or sister might be expected to give under the stimulus of some favourable opportunity, or of some question which admitted of an explanatory reply, information as full as seemed desirable, but how full this should be must, we think, be left to individual discretion. The one thing necessary is that the parents should not shirk the responsibility of warning the children if the particular circumstances seem to demand it, and here the medical profession can be relied upon to give discreet assistance.

Both Mr. LANE in the *Eugenics Review*, and Dr. WARBASSE in some passages of his book, lay much stress upon the dangers of syphilis and gonorrhœa, and draw vivid and only too truthful pictures of the consequences which are likely to follow from neglect of them. We do not think that boys are, as a rule, ignorant of these dangers, although their information may be extremely vague and in many respects inaccurate. As long as opportunities are to be encountered commonly, so long is the combination of curiosity with an impelling instinct likely to induce a considerable proportion of young men to seek personal knowledge; and we do not believe that a more precise knowledge of the risks attendant upon venereal disease would serve in any great degree as a deterrent. The knowledge that such risks exist, although far from being accurate, is at least widely diffused, and opinions differ as to its restraining power. No pains are spared to instruct young soldiers concerning the dangers of illicit intercourse; and the wards of a military hospital furnish a commentary upon the value of the teaching, which would be sadder were it not that at last improvement in the morals of the men can be shown. But his knowledge does not induce the young soldier to avoid the dangers of which he has been warned; it renders him ready or even anxious to submit to treatment. And even the loudest alarmists on these subjects must be compelled to admit that recent years have led to greatly increased certainty and success in the absolutely curative treatment both of syphilis and of gonorrhœa; insomuch that the long list of evils set forth by Mr. LANE and Dr. WARBASSE are now less to be attributed to the infection itself than to neglect of it. Surely the best knowledge on the subject which a boy can possess is that such disease, however serious it may be, is curable if taken in time, and that nothing but neglect need render him a source of danger to a future wife, or to his children yet unborn. Dr. WARBASSE strongly advocates public interference with marriage in the direction of requiring a clean bill of health both from the intending bride and bridegroom before the ceremonial is permitted to proceed. We cannot say, of course, how far such a procedure might commend itself to public opinion in the United States, but in this country we are certainly not ripe for such a proposal; and, speaking generally, we think that the advocates of eugenics will obtain a more favourable hearing, alike from the public and from the medical profession, if they will apply themselves to other aspects of the subject on which they desire to diffuse enlightenment.

The Vaccine Treatment of Periodontal Disease.

DURING the past few years certain diseases of the mouth, and more especially periodontal conditions, have attracted considerable attention, owing to the growing belief that they are the cause of the various constitutional symptoms with which they are frequently associated. The possibility that pyorrhœa alveolaris was the result of a bacterial infection had long been recognised, and in 1906 the use of bacterial vaccines was extended by Mr. K. W. GOADBY to the treatment of this disease. At a recent meeting of the Odontological Section of the Royal Society of Medicine, further papers were given by Mr. GOADBY and by Dr. J. W. H. EYRE and Mr. J. L. PAYNE upon the vaccine treatment of periodontal disease. Constitutional symptoms were present, not only in the severe, advanced cases described by Dr. EYRE and Mr. PAYNE, but also in the early cases referred to by Mr. GOADBY, and in both sets of cases treatment by appropriate vaccines in addition to local treatment was said to have effected either a complete cure or a very marked improvement. The discussion which took place on these papers made it clear, however, that a wide divergence of opinion exists among dental surgeons both as to the nature of the disease implied in the term pyorrhœa alveolaris and as to the value of vaccine treatment. Some define periodontal disease as a chronic progressive destruction of the tooth socket commencing at the gum margin, and accompanied, sometimes in the early stages and invariably in the later stages, by pus formation; they regard the condition as a purely local one due to injury of the tissues by fermentative changes in stagnant material. Others, including Mr. GOADBY, consider that the disease is of bacterial origin and leads to general symptoms almost from the very outset; and apparently they include all acute infections of the gum margin as cases of pyorrhœa. It is generally admitted that advanced periodontal disease, accompanied by pus formation, may lead either to the absorption of toxins from the pockets or to the swallowing of pus which sets up gastritis, and that in these circumstances pyorrhœa may actually cause rheumatic pains, anæmia, and other general symptoms. But those who believe that pyorrhœa is primarily a local disease upon which a bacterial infection may subsequently be grafted do not regard such constitutional conditions as dyspepsia or anæmia as having any relation to the local disease of the mouth, when they occur in patients suffering from early pyorrhœa.

Slight pyorrhœa occurs with extreme frequency, so that it is not surprising that a considerable number of such cases should show some deviation from health; but there is at present no sound evidence that symptoms of general ill-health are met with more often in individuals affected with early pyorrhœa than among those whose mouths are healthy. The uncertainty which still exists as to whether periodontal disease is primarily a local injury of the periodontal tissues, or whether it is from the first a bacterial infection, has not been removed by the results of vaccine treatment. It is evident that purely local treatment should be adequate for

a purely local lesion, whereas it might not suffice for the treatment of general symptoms secondary to local disease. Many surgeons maintain that the results of local treatment alone, even in cases of advanced pyorrhœa and in the presence of constitutional symptoms, are quite as good as those effected by the addition of vaccine treatment; and that purely local treatment will cause not only improvement in the condition of the mouth but also disappearance of the general symptoms of ill-health seems undoubted. Up to the present vaccine treatment has always been employed in addition to local treatment, and no observations on the treatment of pyorrhœa by vaccines alone have been recorded. Nor has it been shown by the comparison of a number of cases that the use of vaccines either hastens the cure of periodontal disease or renders it possible to cure cases which are not amenable to local treatment alone. It seems likely that in advanced cases of pyorrhœa accompanied by definite constitutional symptoms the employment of vaccines may quickly raise the resistance of the patient to infection, and thereby enable him to respond more rapidly and more readily to local treatment; and the excellent results yielded by vaccine treatment in such cases support this view. With this exception, there is no general consensus of opinion that the addition of vaccines to the local treatment of periodontal disease appreciably increases the likelihood of a cure; and until dental surgeons come into accordance upon this matter and also upon the pathology of pyorrhœa, and the meaning attached to the term "cure," the value of vaccines for the treatment of periodontal disease must remain *sub judice*.

The License of Quackery.

FROM time to time we comment in THE LANCET upon cases to some of which publicity has already been given in the lay newspapers, and which illustrate the results arising from the practice of medicine and dentistry by unqualified persons. The comments of the medical press and the reports in our contemporaries may not appear to diminish the stream of patients ready to be lured into danger by specious advertisements, but we have reason to know that in the long run publicity of an undesired sort has its influence for the general good. The cases in question are usually divided under the existing and defective law which governs such matters into two classes. There are proceedings of what may be termed a semi-criminal sort where a man who is not upon the Medical or Dental Register pretends in some way that he is duly registered. He is liable to penalties of a limited character for deceiving his patients into believing that they are being attended by a qualified medical practitioner or dentist. The law is apparently intended to this extent to protect the public; it has, however, as a rule, to be set in motion by combinations organised by the medical and dental professions, so that instead of the State employing a solicitor and briefing counsel to prosecute after setting its agents to collect proof of the offence, the Medical Defence Union or the London and Counties Medical Protection Society finds itself in the position which the Treasury ought to occupy. Criminal proceedings of a somewhat different character are taken when a charlatan extracts money from his victims by clumsily framed assertions of his powers, and thereby allows himself to be convicted of obtaining money by false pretences. These latter cases are, however, rare, because the individual victims are slow to complain, and because when they do they find that the law relating to obtaining money by false pretences allows many and wide loopholes for the escape of the accused. It is to be pointed out that this latter example of legal protection has no direct relation to the medical pretensions of the person who may be charged. The victim has to seek for assistance from the police not because his bodily health has been injured or threatened, but only if and because an attempt has been made upon his pocket.

The second class of legal proceeding to which we have often referred is the civil action for damages, brought on the ground of negligence against a person who in treating the plaintiff has inflicted injury upon him. Here the complaint is left to be made by the person injured. He may bring an action at his own risk if he can afford to do so, and if he succeeds in it he may, or may not, secure compensation, according to the extent of the pecuniary resources of the defendant. Examples of this latter form of legal proceeding will be found on another page, the defendants in both instances given being a firm or firms practising what passes as dentistry among a class of patients likely to be attracted by alluring advertisements of different kinds. The cases described, and others of which particulars have recently been published in THE LANCET, convey a fair idea of the terrible pain and suffering to which the working classes are exposed by the absolute refusal of the legislature to intervene on their behalf in the situation. The patient is left by the State to take his chance. If his jaw is broken or if the dragging out of a dozen teeth by an untrained hand causes him serious injury, he may try his fortune in the county court, where, if the defendants happen to be solvent, he may recover damages together with costs sufficient to cover part of his expenditure upon legal assistance. If he loses, so much the worse for him; if he wins, lucky he if he gets the awarded damages. It is often alleged that in asking that the legislature should check and, as far as possible, abolish unqualified medical practice, the medical profession is merely asking for protection for itself. We do not for a moment suggest that the medical profession does not deserve protection from the competition of quacks: we do not admit any doubt that as an act of justice such protection should be accorded to it. We assert, however, that the interest of the public is rightly paramount in the matter, and that consideration for the safety of the men, women, and children who are the victims of the charlatan should supply the impulse and guide the aim of the legislature in effecting any change.

A case is recorded in THE LANCET this week in which a man was sentenced to pay a fine, with the alternative of a short term of imprisonment, for certain offences which he had committed because he imprudently allowed himself, or caused himself, to be mistaken for a medical practitioner. One of his patients died and he played the part to the end, signing what purported to be a certificate of the cause of her death. This was an offence against the law; the fact that

the person in question attended a woman who was seriously ill and pretended to prescribe for her would probably have passed unnoticed if she had recovered, and the whole proceeding was only illegal in that the husband was caused to have the impression that his wife was being treated by an "ordinary doctor." It hardly seems necessary to labour the points made after citing such an example. We claim that the public should be protected on public grounds. The section of the public which would be interested in any legislation restricting quackery may not ask for protection or even desire it, but this does not affect the question. Lotteries were not suppressed because gamblers asked to be relieved from temptation to speculate in them. The saner portion of the community saw that it was desirable to protect those who were too weak to protect themselves. Public-houses are not subject to regulation because the people prone to drink in them to excess have asked that their favourite liquors should only be obtainable during certain limited hours and under certain conditions of taxation and licence. Those frequenting public-houses have been protected against themselves. Members of the classes most affected for their own good by sanitary legislation are frequently the most difficult persons upon whom to enforce it, and yet sanitary legislation has made enormous progress upon the advice and under the guidance of the medical profession, and in spite of the fact that that profession has incidentally profited by emoluments arising out of the legislative promotion of sanitation. The position with regard to quackery is analogous.

Annotations.

"Ne quid nimis."

THE BOY SCOUTS.

THE announcement that Lieutenant-General Sir Robert Baden-Powell is about to give up his commission in the army in order to devote more time to the development of the Boy Scout movement, which he initiated in 1908, is not without medical interest. From not only a national point of view, but also from a purely medical or health aspect, it must be generally admitted that General Baden-Powell's scheme of scouting for boys appears to rest on a firm and sound basis, which, if properly handled, will possibly prove of very great benefit to the nation. No normal British boy can fail to be attracted by the movement, and the idea of scouting with its promise of adventure and of heroic exploits by flood and field tends to develop in young growing lads the use of their powers of observation and the love of honour, chivalry, and nature. "Catch the boy and make the man," has been General Baden-Powell's dictum, and we thoroughly agree with him. Even if the scouting taught is elementary and if to the cynical it may appear to have too much of the "make-believe" (without which, we imagine, life would be intolerable), yet it must serve a purpose in that it fosters that admirable love of adventure which has made the British nation the first colonising power in the world. The Boy Scout should not be regarded as merely a youth who wears a picturesque costume and who carries a long pole, he is in reality a unit of a big brotherhood which in the future may well serve its country. The elasticity of the organisation is one of its leading features. The general training has very wide limits. The headquarter staff, while ready to help local branches when asked to do so, does not otherwise interfere, and local officers are practically at liberty to make their own modifications of the official manual, "Scouting for Boys," written by the founder of the movement. Although a little less than two years in existence, the Boy Scouts now number more than 130,000 in this country, and their ranks are swelling every day. Branches have also been formed in the colonies. Passing to the purely medical aspect of the movement, we have no hesitation in supporting what must be an important medical asset to the nation—namely, the cultivation of health and physical development. The out-door life and manly exercises followed by the Boy Scouts, whether in the open country or our public parks, are practices which keep them in the fresh air. The training of eye and mind to observe and develop their faculties and judgment is bound to be useful. The South African war amongst its many lessons taught our troops, born and reared in cities, that the Boers were their superiors in the craft of observation and in resource. We now know that our late foes learnt much of this craft in their teens, the popular and possibly true example given being that as boys they were, after having been taught to shoot, turned from their father's roof with a rifle and a single cartridge and told not to come back until they had provided a dinner in the shape of a springbok. Something of this spirit may be inculcated by the Boy Scout movement. The physical exercises and drills which the Boy Scouts undergo in their drill-halls should also help in developing their physique—a matter of national importance. Our only comment is that these should be conducted under some regular medical supervision, and parents and others should, we think, without any undue coddling of their boys, take the advice of the family medical practitioner as to the quality and quantity of hard physical training which their offspring are physically fit to undergo. Most public schools nowadays allow the value of this precaution.

THE HONG-KONG UNIVERSITY.

THOSE who are interested in the spread of Western medicine in China will remember that last year a Chinese Emergency Committee was formed at the Mansion House with a view of raising a large fund for the establishment of Western Colleges for the Chinese.[1] At the time that this committee issued its appeal we welcomed news from Hong-Kong, stating that Mr. H. N. Mody, a prominent resident, had offered the funds necessary to build a suitable local University which was to start with the two Faculties of Medicine and Applied Science (Engineering), provided that a sufficient sum for endowment were forthcoming, and we expressed a hope that the scheme would not clash with the efforts of the Emergency Committee. We are glad to say that Mr. Mody's generous gift has now been definitely accepted. At the last meeting of the University Committee held in December, under the chairmanship of Sir Frederick Lugard, Governor of the colony, the adoption of a site recommended by a subcommittee was approved and a recommendation for its enlargement by the inclusion of four acres of hillside was forwarded to the Secretary of State. It was also determined: (*a*) The students should not reside in the main University building, which should be entirely devoted to educational purposes—e.g., to lecture rooms, laboratories, workshops, libraries, &c.; and (*b*) that the buildings to be now erected should be designed to contain sufficient accommodation to give 500 students a

[1] THE LANCET, vol. i., 1909, p. 996.

full course in arts, medicine, and engineering, and to house from 150 to 180 students. The educational buildings are to be capable of expansion so as to provide room eventually for 1000 students, and the residential quarters are to accommodate 500 students. The following letter from Mr. Mody to the Governor was read in confirmation of his generous gift:—

Victoria Buildings, Hong-Kong. 8.12.09.

DEAR SIR FREDERICK,—In reply to your letter of to-day I have pleasure in confirming my verbal authority to you to inform the committee of the University Fund that I accept the design now submitted by Mr. Bryer, and undertake to erect the buildings and to lay out the ground as shown thereon. As the original plan agreed to by the committee was estimated to cost only $180,000, which was subsequently raised by alterations to $235,000 and now again to $285,000, I trust that this last set of plans will meet with the approval both of yourself and the committee and be adopted as final.—Yours very sincerely,

H. N. MODY.

Sir Frederick J. D. Lugard, K.C.M.G., &c.

The committee unanimously decided to accept Mr. Mody's gift unconditionally. The plans referred to, signed by Mr. Mody and by the Governor, will be deposited with the archives of the University. At the same meeting it was announced that "H.M.'s Government had decided that on the establishment of the University they would provide an annual sum of £300 for scholarships ..... subject only to the provision that the holders are to be British subjects." The Secretary of State, in the despatch conveying this information, added that His Majesty, as a mark of his "personal interest" in the University, had been graciously pleased to direct that the holders should be styled "King Edward VII. Scholars." The committee unanimously recommended that the scholarships should be open to all British subjects. Subsequently the chairman stated that the Endowment Fund now amounted to $1,183,640. Dr. Ho Kai pointed out that in addition to this there is a sum of $32,200 definitely promised from Canton, which could be relied on, together with an additional sum of $3000 from Saigon. In view of the fact that the minimum amount laid down in Resolution 1 for the endowment fund may now be said to have been obtained, and as the designs for the building have now been approved by the committee and by Mr. Mody, it was unanimously agreed that the work should be commenced. It should be added that the success of the scheme has been largely assured by the munificent endowment of £40,000 made by the firms controlled by Messrs. John Swire and Sons, and as this gift was largely due to the personal interest of Mr. J. H. Scott, the chair of engineering is to bear his name. The buildings themselves will form Mr. Mody's lasting monument.

A METHOD OF DESTROYING TSETSE FLIES IN A LOCALITY.

IN the January *Bulletin* of the Sleeping Sickness Bureau a summary is given of the report of the Portuguese Commission and the measures for suppressing sleeping sickness in the island of Principe. In this report a description is submitted of a novel method for reducing the tsetse fly pest in that colony. It appears that M. Maldonado, the manager of one of the estates, had noticed the frequency with which these insects settled on the backs of labourers who were engaged in mowing grass, and who were consequently working in a stooping position. He therefore conceived the idea of making his labourers thus engaged wear on their backs while at work a black cloth coated on its outer surface with a glutinous substance. The glossinæ are known to have a preference for alighting on a black surface; and if this be rendered sticky the fly as soon as it alights is made a prisoner and cannot escape. It is stated that during a period extending over some months, during which a strict record was kept, no fewer than 133,778 tsetse flies were thus trapped and destroyed. As a rule two labourers equipped in this way sufficed to clear off a large proportion of the flies from a plantation in a short space of time. After M. Maldonado had demonstrated the success of his method it was readily adopted with similarly successful results on other estates. During the first few days in which this method of trapping was in use the tsetse flies captured ranged in amount from 1500 to 2000 a day, but in a week the daily number secured fell to 15 or 20; at the same time the comparative absence of the insects about the plantation was very noticeable. The method is obviously more likely to yield good results on an island like Principe, where the local glossinæ cannot be reinforced by others from adjacent districts, as might happen on the mainland. *Apropos* of the tsetse flies, we have received two skeleton maps issued by the honorary managing committee of the London Sleeping Sickness Bureau, the first of which shows the distribution of sleeping sickness and all species of glossina in tropical Africa, and the second that of sleeping sicknesss and glossina palpalis alone. It is admitted by the committee that the information given on the maps is sketchy, because only undoubted records of the occurrence of these flies are charted. It is hoped, however, with the receipt of further trustworthy reports to fill up rapidly the blanks on the maps. Some notes are added on the different species of tsetse flies, as well as on the distribution of sleeping sickness and tsetse flies in Africa. A list is likewise given of the papers from which the data were collected. For the assistance of those likely to send reports on the subject to the Sleeping Sickness Bureau certain points are set out on which information is wanted, as also are the data which should accompany any specimens of tsetse flies that may be forwarded to the committee.

JANUARY AT HOME AND ABROAD.

THE chief feature of the weather of January in this country was its sudden and great changes of temperature. After the earlier half of the month had been generally mild a change occurred which culminated in heavy snow in most of the northern districts and a temperature by the sheltered thermometer such as is very seldom observed in any part of these islands. At West Linton (Peebles) the thermometer descended to 5° below zero, followed by a minimum of 4° below on the succeeding night, while at Buxton the thermometer fell to within 1° of zero. But in spite of the very cold spell the temperature for the whole month diverged little from the normal. The Scilly Isles enjoyed a higher mean temperature than the south and south-west of France and the north of Italy, while its nights were as mild as those at Naples, and only a degree cooler than those at Lisbon. The resorts on the mainland of the south-west and south of England, however, were all considerably cooler than Scilly, and did not compare so well as usual with the shores of the Mediterranean and Biarritz, although most of them were favoured with a more equable temperature. The great difference in the temperature of the day and night at Nice and Palermo is very striking compared with that on the south and south-west coasts of this country. For a temperature both mild and equable none of the southern places could compare with Malta, where the average afternoon gave a maximum of 58° and the average night a minimum no lower than 51°. The latter figure is 12° above the corresponding value at the Nice observatory and 11° above that at Biarritz. In comparing the continental capitals with London it will be seen that the temperature at Paris and in London was almost identical, while London was milder than Brussels and considerably milder than Berlin. Berlin was, however, much milder than usual for the time of year and for the second month was no colder than some places in the English midlands. North

Germany as a whole has really experienced no winter yet, as the word is generally understood in that region. At Berlin last month there were only three days with an afternoon temperature at the freezing-point or below it, and on many of the nights the sheltered thermometer remained some way above 32°. Falls of rain and snow were much more frequent in this country than in the south of Europe; Nice and Palma were fine and dry nearly throughout the month. There was, nevertheless, more sunshine than usual in many parts of the United Kingdom. In London (Westminster), where an average January gives no more than 19 hours, there were 35 hours, while along the south coast, where the weather was more than twice as sunny as in London, there was also a marked excess on the average.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean range of temperature.	Number of days with rain.	Total fall in month.
	°	°	°	°	°	°	*	ins.
Scilly	53	37	50	44	46·7	6	21	2·68
Jersey	53	28	48	40	43·9	8	19	4·20
Torquay	56	24	47	37	42·2	10	19	3·88
Sandown, Isle of Wight	53	24	46	37	41·8	9	16	2·74
Weymouth	52	20	46	38	42·1	8	14	2·96
Bournemouth	54	18	45	36	40·7	9	14	3·28
Brighton	50	22	44	37	40·4	7	13	2·72
Bath	54	16	46	34	39·8	12	13	3·23
Buxton	52	1	40	30	35·1	10	20	4·08
Harrogate	53	14	41	32	36·2	9	16	4·10
Manchester	53	14	42	34	38·1	8	15	3·51
Nottingham	53	15	43	32	37·5	11	13	1·89
London	54	21	46	34	39·6	12	12	1·53
Paris	55	23	45	34	39·5	11	11	3·35
Berlin	49	21	40	32	36·0	8	12	1·44
Brussels	51	23	42	34	38·0	8	17	2·33
Nice	68	30	54	39	46·2	15	3	1·14
Biarritz	57	28	52	40	46·2	12	10	3·59
Florence	57	26	49	38	43·3	11	8	5·59
Rome	59	30	53	41	47·1	12	6	1·82
Naples	60	36	53	44	48·6	9	? 9	? 2·61
Palermo	71	37	60	42	50·9	18	11	4·03
Malta	64	42	58	51	54·7	7	11	4·98
Palma (Majorca) ...	68	41	57	45	51·2	12	2	0·65
Algiers	66	41	60	47	53·9	13	8	5·59
Lisbon	59	39	55	45	50·3	10	8	1·19

* A day with at least 0·04 inch.

THE PATHOLOGY OF ADDISON'S DISEASE.

AT a meeting of the Pathological Section of the Royal Society of Medicine, held on Jan. 18th, Dr. Herbert S. French described a case of extensive yet incomplete fibro-caseous disease of both suprarenal capsules in which symptoms of Addison's disease were not present.[1] In the course of his remarks he stated that the interest of the case lay mainly in the fact that it afforded to some extent a natural experiment upon how much less than the normal amount of suprarenal gland tissue a full-grown human being might have without developing symptoms of Addison's disease. It must be here remembered that cases have been recorded in which after death the suprarenals have been found to be extensively destroyed by tuberculosis or new growth, in which, nevertheless, definite clinical symptoms of Addison's disease had been absent during life. Further, cases have occurred having the clinical characteristics of the disease in which caseation of comparatively small amount was found in the suprarenals after death, perhaps only in one; and, lastly, there have been cases indistinguishable from Addison's disease in which the suprarenal capsules themselves were healthy, although the surrounding sympathetic nerve plexuses and semilunar ganglia were implicated in dense adhesions or in a growth, such as lymphadenoma. In other words, although tuberculous lesions of the suprarenal bodies may give rise to the clinical phenomena of Addison's disease, the exact pathology of that condition is not known. Whether Addison's disease is due to an inadequate supply of adrenalin or whether it is an auto-intoxication due to inadequate excretory or antitoxic activity of the suprarenal bodies has been fully argued. The whole subject has been ably considered by Dr. H. D. Rolleston in Allbutt and Rolleston's "System of Medicine" (Vol. IV., Part 1, p. 395), where the author gives an excellent summary of the present knowledge of the subject. He is of opinion that Addison's disease is due to inadequacy of the chromaffin or adrenalin-secreting cells, which are chiefly situated in the medulla of the gland but are also found in connexion with the sympathetic trunks. He also believes that it is possible that there is a second factor at work—namely, irritation of the sympathetic nerves, which might be due to adhesions and invasion of the pericapsular nerves or ganglia or toxæmic in nature, due either to failure of a hypothetical antitoxic function of the cortex of the adrenals, or to disturbed metabolism resulting from absence of adrenalin. Dr. French's interesting case is one more proof that we have much to learn about Addison's disease.

[1] THE LANCET, Feb. 5th, 1910, p. 368.

MOROCCAN SAINTS.

THE Marabouts or Mussulman saints of Morocco seem possessed of many of the attributes of savage medicine men. It is curious indeed to find the Moors, who in Spain became the fathers of mediæval medicine, so retrograde in their original habitat in Northern Africa. The Marabouts, of whom an interesting account has lately been published by Professor Montet of Geneva, are supposed by their superstitious admirers and disciples to possess any number of miraculous powers. Their saintliness, which is often of the most lax and questionable order, confers upon them the power of becoming invisible, shot-proof, ubiquitous, or gaseous and luminous. After death miracles, especially those of healing, are worked at their tombs. Their relics perform cures and resurrect the dead, and the faithful, with a fervour peculiarly oriental, flock to their shrines to pray for health. Barren women and impotent men are especially devoted to this cult. The old or impotent men, presumably with large harems, address their prayers, we are told, to the relics of the holy Mogdoul of Mogador, who, according to Professor Montet, is a deified Scottish highlander, one Macdonald, who came as a renegade to Morocco as lately as 1760. Many of the Marabouts are doubtless epileptics. One such, notorious for his assaults on women, which were reverently screened by his admirers, is described at some length by the Genevan traveller, who quotes from the works of L. S. Chénier, a consul, author of "Recherches Historiques sur les Maures" (1787). This saint prefaced his outrages with convulsive movements. Often idiotic or epileptic themselves, these so-called saints are held to be sovran exorcisers of evil spirits or djinn (pl.). Near the tomb of Sidi Jacoub at Tlemcen there is a niche or small shrine called locally Bit-Djenoûn, the House of the Djinn. The guardian of this shrine informed Professor Montet that the evil spirits repaired thither, and that "the possessed," whom science regards as the epileptic, are wont to resort to the same place in order to be cured. The man possessed passes the night there, taking

care to keep his head in the niche. In the morning, owing to the favour of Sidi Jacoub, the evil spirit is found to have departed out of the patient. "Spaniards," added the pious Mussulman guardian devoutly, "sometimes come here to get rid of djinn." This is credible enough, for the cult of tombs and relics is almost as prevalent in Southern Europe as in the East. It is remarkable in a society where women are held in subjection that there are female Marabouts who enjoy high consideration and are even more antinomian, more untrammelled in conduct and morals, than the men. Lalla Fatma, a celebrated Kabyle leader, has been charmingly described by Doutté at the time of her capture by the French in 1857. Despite her extreme *embonpoint* she had a noble countenance. Her dark eyes were rendered expressive by the abundant use of khol, her finger-nails were tipped with henna, and her dress and amulets suggested the picture of Rebecca in "Ivanhoe." Again, Lalla Imma Tifellout, after a youth of extreme asceticism, turned into a species of female ghoul, her amours causing the death of her victims. She, however, died a hermit, and is revered for her miraculous powers by the ferocious Beni Calah, whose great saint she is. The virtue of these barbaric saints resides in the humours of the body. The "baraka," or Divine grace, is transmitted through the saliva. Hence the Marabouts are in the habit of spitting into the mouths of their disciples in order to initiate them. This custom is probably pre-Mahomedan in origin, as is indeed the whole cultus of the Marabouts' tombs and shrines, which traces back to the anthropolatry of the ancient Berbers.

RECENT RESEARCHES ON THE CEREBRAL CIRCULATION.

WHEN in 1874 Dr. Duret of Paris published his researches, long since become classical, on the cerebral circulation, medical knowledge of the topography and functional localisations of the cerebrum was rudimentary in the extreme. Professor Hitzig in Germany and Dr. Ferrier in England were just commencing those investigations which led directly to the discovery of a new domain in neuropathology. It is only since our knowledge of cerebral physiology and pathology has been placed on a scientific basis that we have learned that, as far as the brain is concerned, the nature of a lesion is of less clinical importance than its site. Whatever be the pathology of a given cerebral lesion, the symptoms remain very much the same if the same area be affected. We are learning, further, to think of cerebral symptoms in terms of arterial distributions. The careful and painstaking study, from the clinical and the pathological standpoint alike, of the results of circumscribed arterial disease, will afford more insight into cerebral localisation than that which is to be gained by an investigation of the effects of intracranial tumours, for instance, unless perhaps in the initial stages of the latter. It is pleasant to find, in the January number of *L'Encéphale*, a communication from Dr. Duret himself on recent advances in this connexion that is of considerable interest. Dr. Duret makes the pregnant suggestion that cerebral arteries should not be designated by the areas they supply, but rather by the organs they supply. Thus, instead of describing the various branches of the Sylvian artery as the anterior, middle, and posterior parieta arteries, &c., he suggests they should be known as the artery of the third frontal convolution, the ascending frontal artery, the ascending parietal artery, the artery of the angular gyrus, &c. In this way they are brought into line with the general nomenclature of arteries, such as the thyroid, the lingual, and the mammary arteries. Reference is made to the constant occurrence of certain anastomoses, and to their significance from the point of view of cerebral function. Thus, in the cortical centres for vision, the posterior branch of the anterior cerebral, the third branch of the posterior cerebral, and a twig from the terminal branch of the Sylvian, will always be found to anastomose freely. Another division of the paper deals with the vascular supply of the basal ganglia. Dr. Duret finds himself more or less in agreement with the results obtained by Dr. Ayer of Boston, and published in the *Boston Medical and Surgical Journal* in 1909. From these it would appear that the anterior cerebral artery is of considerable prominence in the nutrition of the head of the caudate nucleus, the globus pallidus or inner part of the lenticular nucleus, the putamen or outer part of the same, the anterior part of the internal capsule, and part of the external capsule. The American author has never found a lenticulo-optic artery, yet according to Dr. Duret he figures one in several of his diagrams. It is curious that no allusion is made to the comprehensive researches of the late Dr. Beevor, work characterised by the thoroughness and attention to detail that was a feature of all his investigations. Dr. Beevor used the method of simultaneous injection with five different coloured fluids of the five main vessels supplying the cerebrum, and the communications presented by him to the Royal Society of London two years ago may be said to have settled these vexed questions of cerebral supply once and for all.

LIGHT, PIGMENTATION, AND NEW GROWTH.

WE have received a copy of a paper read at the South African Medical Congress at Durban on August 2nd, 1909, by Dr. Wilfred Watkins-Pitchford, in which he endeavours to develop a theory of the genesis of cancer. He starts with the general statement that no living matter is indifferent to light, and discusses the reactions of vegetable and animal organisms to its rays. He suggests that the development of pigment in the cells of growing embryos originally served the purpose of directing and restraining the fission of the cells, and, further, that pigment is an important factor in maintaining "tissue integrity" and in preventing the invasion of one tissue by another. He seems to regard the presence of pigment as a protection against the effects of illumination, or, as he expresses it, as a means of protecting the tissues from the stimulus of irradiation. He finds that man is peculiar in the paucity of the protective mechanisms he possesses against the effects of light, there being only the pigmentation of his skin and the red colour of his blood. His theory of cancer is, in brief, that irradiation causes the uncontrolled growth of cells which characterises that condition, which is, in effect, "a failure on the part of the more independent cells of the body to inherit the normal tendencies which control their multiplication." He applies this theory to the explanation of the development of cancer in various parts of the body, superficial as well as deep. He states that cancer is most common in the white races, and that the black races enjoy a relative immunity; that cancer is more frequent among those whose occupation or place of residence exposes them more to the effects of light. He even suggests that the increasing incidence of cancer may be possibly related to changes in the texture and colour of the clothing worn at the present day as compared with that formerly in use, which afforded more protection against the effects of light, such as the black broadcloth for the men and the black silk for the women. He states that the clergy as a class enjoy, not only the lowest general death-rate of all the occupations in England and Wales, but also a decidedly low death-rate from cancer, and hints that this may be due to their retention

of the custom of wearing black clothes. Dr. Watkins-Pitchford supports his theory chiefly by vague but ingenious speculations and admits that his main propositions are "inductions from observations and not from experiments." It is of interest to note that X rays, which are a form of radiant energy, are now generally admitted to be able to cause carcinoma in skin exposed too long and too often to their effects. The experiments of Dr. W. S. Lazarus-Barlow and his co-workers at the Middlesex Hospital on the relations between radio-activity and cancer are not mentioned by Dr. Watkins-Pitchford.

THE HARMFUL EFFECTS OF ANTIPYRIN ACETANILIDE, AND PHENACETIN.

WE published in THE LANCET of August 14th, 1909, a note on a report[1] prepared by Dr. L. F. Kebler, Dr. F. P. Morgan, and Dr. Philip Ruff, dealing with the harmful effects of acetanilide, antipyrin, and phenacetin. We summarised briefly the results of their investigation of 400 replies received in answer to questions addressed to 925 physicians, showing a total of 814 cases of poisoning due to these drugs, with 28 deaths, and 136 instances of their habitual use. A search of medical literature during the period 1884–1907 showed records of 855 cases of poisoning, 26 deaths, and 33 cases of habitual use. It is noteworthy in regard to the 814 cases of poisoning investigated in the report that 94 cases occurred in children, and that in 377 cases—i.e., in about 46 per cent. of the cases—the drugs were administered without a physician's prescription. We have recently received a copy of a pamphlet by Dr. Uriel S. Boone of St. Louis entitled "Antipyrin, Acetanilide, and Phenacetin: Are they Harmful Remedies? Are they Habit-forming Drugs?" In this pamphlet the conclusions contained in the above-mentioned report are aspersed on the basis of the replies obtained by Dr. Boone to a series of 18 questions addressed to "every hospital and sanatorium in the United States." He received replies from over 1100 of them, and on the basis of these he was surprised to find that in these hospitals and sanatoriums there were records of only 31 cases of untoward effect, and no record of a death due to these drugs. Among these 31 cases there was one case of insanity following abuse, 6 cases of large overdosage, 2 being of attempted suicide; 1 case of a child in a weakened state after amputation, 1 of acetanilide given with strychnine, 1 instance of 10 or 12 powders taken during drunkenness, and 1 case of a teaspoonful given to a patient with enteric fever by mistake; 7 cases are reported without details, and in the remaining 17 the symptoms were those of irregular pulse, weak action of the heart, and cyanosis, and were due to overdosage. Dr. Boone next discusses the question as to whether these drugs can lead to habits like those of other drug habits, and he finds that there has never been a case of habit in all those institutions from which he received replies. He is careful, however, to differentiate between habit in the sense of uncontrollable craving and habitual use for the relief of pain. He gives tables showing the replies he received and quotes the actual words of the reports of any cases of untoward effects, as he appears to be apprehensive lest the *bona-fide* character of his inquiry shall be traduced, his object being, as he claims, to arrive at the truth in regard to a matter which has been rather hotly debated. He states that he applied to the Agricultural Department of the United States for permission to examine the reports upon which its conclusions were based, but that his request was refused. He concludes that the denunciation of the coal-tar remedies has been excessive, that given in proper doses they are free of danger except in cases of idiosyncrasy, and that they do not lead to the production of a habit. Dr. Boone's results are sufficiently at variance with the views generally held to need some discussion. In the first place, he only received one reply in regard to antipyrin. In the report of the Department of Agriculture 65 cases of poisoning, 5 deaths, and 7 cases of habitual use were attributed to this drug, while in their study of the 855 cases of poisoning due to the coal-tar analgesics recorded in medical literature no less than 488 with 10 deaths were attributed to antipyrin. Again, his results deal with hospital practice, the other reports not being limited to institutions, in which it is probable that greater care in regard to dosage would be exercised than outside when the drugs are so frequently taken upon the patient's own responsibility. We are disposed to accept the distinction made by Dr. Boone in regard to habit and habitual use, but it is difficult to regard drugs which have been responsible for a considerable number of deaths as harmless, even though none of them may have occurred in the institutions from which Dr. Boone received his replies. The outcome of the whole inquiry would seem to be that harmful results, when they do occur, are largely the result of injudicious or excessive dosage, which, as we pointed out in our reference to the report of the Board of Agriculture, is similar to the conclusion arrived at in 1894 by the therapeutic committee of the British Medical Association under the chairmanship of Dr. D. J. Leech. Dr. Boone is apprehensive lest these remedies shall fall into an unmerited desuetude, while those who point to their dangers usually endeavour to emphasise the necessity for care in regard to their use and to prevent their indiscriminate use by patients. We can only be in sympathy with both these aims.

[1] Bulletin No. 126, Bureau of Chemistry, United States Department of Agriculture.

THROMBOSIS OF THE VEINS OF THE PENIS IN GONORRHŒA.

IN the *Progrès Médical* of Jan. 8th M. F. Jacoulet has reported a case in which occurred a rare complication of gonorrhœa—thrombosis of the dorsal vein of the penis—in a man, aged 22 years. On May 15th, 1908, the fourth day after coitus, an attack of gonorrhœa began. There were acute pain on micturition, an abundant discharge, and general symptoms—fever, rigors, malaise—which obliged him to remain in bed. On the 26th he felt acute pain at the root of the penis, and at the end of micturition, which was always excessively painful, some drops of blood appeared. On the 28th œdema of the penis began at the prepuce and spread up the penis to the root. It was impossible to uncover the glans. The œdema was soft and slightly painful. The skin was of normal colour and there were no inflamed lymphatic vessels or inguinal glands. On the 29th, in the middle line of the dorsum of the penis and in the position of the dorsal vein, appeared an indurated cord which was easily palpated through the œdematous skin, moveable on the deeper parts, and slightly painful. On the lower surface of the penis, where the œdema was less marked, were distended projecting veins, which, however, did not give the sensation of an indurated cord. Treatment consisted in rest in bed, moist warm dressings, and baths for the penis. On the 30th the urethritis was still intense and some drops of blood were passed at the end of micturition. On the 31st there was marked improvement; the discharge was less and the pain was tolerable. The œdema had diminished and was localised to the prepuce, which could not be retracted behind the glans. At the preputial orifice a small superficial lenticular ulcer was found. The indurated cord on the dorsum of the penis persisted. On the following days the improvement persisted, but on June 7th an exacerbation of the urethritis occurred; the discharge increased and the pains reappeared.

At the same time the œdema increased and again involved the whole of the penis. At no time was there any adenitis of the inguinal glands. On the 10th there was again improvement; the œdema was disappearing, but the indurated cord persisted and the preputial orifice was still ulcerated. But evidently the œdema was not due to lymphangitis. Thrombosis of the veins of the penis in gonorrhœa was first described by Desruelles in 1836 in his work on venereal diseases. He mentioned both phlebitis of the dorsal vein and phlebitis of the deep veins which might cause gangrene. The condition has received little attention from writers, but Payenneville, in a recent important article on the subject,[1] states that it is common, but is almost always confounded with lymphangitis. In deep thrombosis of the penis the thrombosis of the cavernous veins is accompanied by thrombosis of other veins. Our Berlin correspondent this week cites a case in which obstinate priapism in association with appendicitis was attributed to thrombosis of the deep vein of the penis. In one recorded case the necropsy showed that the cavernous veins were obliterated by clots which extended to the vesical and prostatic plexuses. In another case there were abscess of the prostate and phlebitis of the peri-prostatic plexus, and the thrombosis involved the pubic veins. The enlarged corpora cavernosa contained black pitch-like blood mixed with reddish clots showing purulent striæ. Superficial thrombosis generally runs a benign course. Its treatment is therefore expectant. In deep thrombosis, on the other hand, the treatment recommended is early incision of the corpora cavernosa through both its penile and perineal segments. When gangrene occurs separation of the sloughs should be facilitated. Later a plastic operation may be necessary.

SINCE Dec. 14th, 1909, five further cases of small-pox have occurred in the County of London. It is thought that the disease was contracted in Warsaw by two members of an English music hall company, who, on their return to England, were the means of transmitting infection to three other persons.

A TELEGRAM from the Governor of Mauritius to the Secretary of State for the Colonies has reported 11 cases of plague with 8 deaths during the week ending Feb. 4th.

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[1] Annales des Maladies des Organes Génito-Urinaires, No. 8, 1908.

WORTHING HOSPITAL.—Following up the decision of the governors of Worthing Hospital in the middle of December last, that an ophthalmic department should be established at the institution, the hospital management committee has appointed Mr. W. Watson Griffin, of Hove, as ophthalmic surgeon. Mr. Griffin has had charge of the eye department of the Sussex County Hospital at Brighton since 1901. He was formerly in the eye department at the Middlesex Hospital, and clinical assistant at the Royal London Ophthalmic Hospital.

THE LONDON MILK-SUPPLY.—The public health committee reported to the London County Council on Feb. 8th that between Oct. 11th, 1909, and Jan. 29th, 1910, 810 samples of milk delivered at London railway termini had been examined under the provisions of Part IV. of the London County Council General Powers Act, 1907. The samples came from 25 counties and 676 had been examined to date, 73 being found to be tuberculous. Since the Act came into operation the examination of 1930 out of 2531 samples taken had been completed and the percentage shown to be tuberculous was 9·6. The Council's veterinary inspector had visited 184 farms outside London and inspected 4455 cows, of which 74, or 1·7 per cent., were found to be suffering from tuberculosis of the udder. In every case the dairy farmer had undertaken to sell no more milk from the affected animal.

PELLAGRA INVESTIGATION COMMITTEE.

A COMMITTEE, having the following constitution, has been formed in London for the promotion of the investigation of pellagra:—His Excellency the Marquis of San Giuliano, Italian Ambassador; Sir Thomas Clifford Allbutt, K.C.B., F.R.S., Regius professor of physic, University of Cambridge; Mr. E. E. Austen, F.Z.S., assistant in the Department of Zoology, British Museum (Natural History); Fleet-Surgeon P. W. Bassett-Smith, R.N., lecturer on tropical medicine, R.N. Hospital, Haslar; Sir T. Lauder Brunton, LL.D., F.R.S., consulting physician, St. Bartholomew's Hospital, London; Mr. J. Cantlie, lecturer to the London School of Tropical Medicine; Dr. C. W. Daniels, director of the London School of Tropical Medicine; Mr. R. S. Fraser, Member of Council, London Chamber of Commerce; Dr. Clement Godson; Dr. C. F. Harford, principal of Livingstone College, Leyton, honorary secretary, Society of Tropical Medicine; Lieutenant-Colonel Sir William Leishman, professor of pathology, Royal Army Medical College; Dr. R. T. Leiper, helminthologist to the London School of Tropical Medicine; Dr. G. C. Low, lecturer in parasitology, King's College, London; Dr. J. MacLeod, lecturer on dermatology, London School of Tropical Medicine; Sir Patrick Manson, K.C.M.G., F.R.S., medical adviser to the Colonial Office; Dr. F. G. Melandri, physician to the Italian Embassy; Professor E. A. Minchin, F.R.S.; Dr. F. W. Mott, F.R.S., pathologist to the London County Asylums; Professor William Osler, F.R.S., Regius professor of medicine, University of Oxford; Com. Paolo Polenghi, President, Italian Chamber of Commerce, London; Professor Ronald Ross, F.R.S., professor of tropical medicine, University of Liverpool; Dr. L. W. Sambon, F.Z.S., lecturer to the London School of Tropical Medicine; Dr. F. M. Sandwith, lecturer to the London School of Tropical Medicine; Professor W. J. R. Simpson, professor of hygiene, King's College, London; Dr. S. Squire Sprigge, Editor of THE LANCET; Mr. H. S. Wellcome; and Dr. Dawson Williams, Editor of the *British Medical Journal*.

In a preliminary communication setting forth the objects of the Committee the following lucid statement is made of the present position of our knowledge of the disease:—

Epidemiology of Pellagra.

Pellagra is one of the formidable disease-scourges of mankind. Like malaria, it is widely distributed throughout the world, being most prevalent in certain districts of tropical and subtropical countries. Europe, Asia, Africa, America, Australasia, all have their areas of pellagra endemicity, the extent of which, owing to non-recognition of the disease, is in most cases probably far wider than is generally suspected. In certain countries within the Mediterranean region, such as Spain, Italy, Roumania, pellagra is looked upon as a veritable calamity. For Italy a yearly estimate of about 100,000 standing cases is no exaggeration; whilst Roumania, with a population of 5,300,000, is estimated to contain from 40,000 to 50,000 cases.

Like kala-azar and sleeping sickness, pellagra is a deadly endemic disease, presenting a long, cruel course of 3, 10, 15, or more years' duration. It is confined almost exclusively to field labourers. It is characterised by a complexity of nervous, gastric, and cutaneous symptoms. The symptoms make their first appearance during the spring months and recur year after year at the same season, remitting more or less during the winter months. Clinically, the more distinctive features are a peculiar skin eruption, not unlike a severe sunburn, which affects the exposed parts of the body, accompanied by profound melancholia alternating with mania, which often leads to murder or suicide. In the last stages the patient becomes greatly emaciated, paralytic, and completely demented. In women pellagra usually causes abortion; when they do have children, the offspring are sickly and degenerate.

Pellagra is seriously prevalent in many parts of the British Empire and its dependencies. In Egypt it is known to be a veritable scourge. According to Dr. Sandwith the disease is especially common in Lower Egypt, where in certain villages he found as many as 36 per cent. of the inhabitants affected. Dr. Lavinder, however, states that it is more common in Upper Egypt. Dr. Cuthbert Bowen and, more recently, Dr. G. C. Low, have recognised the presence of pellagra in Barbados, West Indies, whilst

it has also been reported from South Africa, among the Zulus and Basutos. Dr. Sandwith states that he saw two cases among the coloured lunatics on Robben Island in 1900. The disease is prevalent in parts of India. Dr. U. Ray wrote in 1902 that during a short stay in one of the districts of North Behar he observed several cases. At the Tropical Section of the British Medical Association meeting at Edinburgh Dr. Sandwith showed pictures and photographs of pellagra which were independently recognised by three members from India as representing a disease which they had often seen among out-patients, without being able to give it a name.

Pellagra is regarded as strictly endemic. Everywhere, however, where its occurrence has been noted for any length of time it has shown a marked tendency to slow extension. For instance, in the United States of America a few sporadic cases had been observed from time to time, but since 1906 the disease appears to have rapidly increased, and numerous cases have already been reported from no less than 17 States. This tendency to spread is a fact which must receive very serious attention, especially when we consider that pellagra can thrive just as well in Poland as in the Panama Canal zone, and that when once established in a new locality it remains there.

Theories Regarding the Causation of Pellagra.

Amongst the old theories as to the causation of pellagra we we find the disease ascribed to insolation, leprosy, syphilis, indigestible foods (onions, garlic, salted viands), bad air, bad water, poverty, inanition, &c. At the present day the almost universally accepted theory of its causation is the "maize theory," which ascribes the disease to the use of maize (Zea mais) or Indian corn as an article of food. This theory arose in Italy at the beginning of the nineteenth century at a time when there was a tendency to ascribe a number of diseases to food of one kind or other. Championed first by Thouvenel, Bassi, Marzari, and Fanzago, later by Ballardini, Pari, and Majocchi, and lastly by Lombroso and his school, it has reached us in a bewildering multiplicity of forms. All "zeists" are agreed that maize must be the cause of pellagra, but the morbific action of Indian corn is attributed by some to deficiency in nutritive principles, by others to specific toxic substances contained normally in the grain; others, again, believe that the pathogenic elements are elaborated during decomposition of the grain either before or after ingestion. According to some investigators, the poisons are the product of certain bacteria which attack the maize, others believe that they are elaborated by fungi. The nature of the toxic substances, bacteria, and fungi have varied with the investigator who isolated them; nevertheless, each has been equally satisfied that he has isolated the true causative agent of pellagra, and all claim to have reproduced the disease in man or animals by means of their particular poisons or micro-organisms. Of all the micro-organisms incriminated the most generally accepted are Aspergillus fumigatus, and the common blue mould (Penicillium glaucum), both of which are found everywhere on the most heterogeneous media.

At the Tropical Section of the British Medical Association at the meeting in Leicester in 1905 Dr. L. W. Sambon, criticising this medley of speculation and assertion, first pointed out that pellagra did not seem to be a food disease or due in any way to unsound maize, and suggested that in all probability it was protozoal in origin.[1]

Dr. Sambon's theory has received the support of Sir Patrick Manson, who not only endorses it in the new edition of his book on tropical diseases, but has repeatedly urged the necessity of investigating the disease on account of its prevalence in Egypt, the West Indies, and other tropical areas; while at the Third Pellagra Congress, held in Milan in 1906, Professor Terni also lent his support to Dr. Sambon's views. On Oct. 29th, 1908, a conference was held in Columbia, U.S.A., under the auspices of the State Board of Health of South Carolina, to discuss the problem, in view of the recent recognition of the disease in the Southern United States. Further support was given at this conference to Dr. Sambon's protozoal theory. Professor Babes of Bucharest, Roumania, hitherto a pronounced champion of the maize theory, has also become a supporter of the protozoal theory of Sambon, and, moreover, in a recent joint article, he and others have reported favourably on the treatment of pellagra by atoxyl and arsenious acid combined.

Urgency of Investigation.

Considering the gravity of the disease, the wide extent of its prevalence in British Colonies, Protectorates, and Dependencies, and its tendency to spread, it is our duty to take up the investigation of pellagra without further delay. The sudden spread of the disease in the Southern United States and the prompt action of the United States Government should be both a warning and a lesson to us. No time has been lost by the Americans, who, in this and other similar matters, have shown themselves to be leaders in the practical application of science and knowledge. Already, since 1908, two Conferences have been held in South Carolina, and a Pellagra Congress has been arranged for next June at Peoria, Illinois. Meanwhile, a National Association for the Study and Prevention of Pellagra has been organised under the Presidency of Dr. J. W. Babcock, one of the first to draw attention to the pellagra danger.

Apart from its paramount practical importance with regard to health, the subject of the etiology of pellagra claims investigation in the interests of British science. For over a century the causation of pellagra has been looked upon as solved by the maize theory. On this theory have been based all scientific researches, all preventive measures. As a consequence, instead of investigating the disease in the field, the proximal cause of pellagra has been looked for in samples of spoiled maize and, accordingly, regardless of continued failure, the whole prophylaxis of the endemic has been limited to the confiscation of unsound maize. A new and more plausible theory, based on analogy and fact, having been proposed by workers in Great Britain, this country should secure the credit of effecting the discovery of the veritable cause. Certain it is that this disease has to be reinvestigated in the light of the new ideas on the action of insects in the diffusion of parasites, ideas which have thrown so wonderful a light and, from the standpoint of prevention, so valuable a light on many of the obscure problems of tropical pathology.

Plan of Research.

It is suggested that Dr. Sambon be sent forthwith to a pellagrous area to work out the topographical distribution and epidemiology of the disease. As a working hypothesis Dr. Sambon proposes to endeavour to establish a connexion of the disease with one of the so-called "sand flies" (Simulidæ). A careful study of the distribution, topographical and geographical, as well as seasonal, shows that there is a remarkable concurrence in the areas and seasonal activities of these insects and pellagra. It is unnecessary here to enter into detail; suffice it to say that these concurrences are, to say the least, highly suggestive. If Dr. Sambon finds this hypothesis inapplicable he will be alive to any fact or circumstance which may guide to the true etiology of pellagra. In any case, a study of the smaller blood-sucking flies belonging to the families Simulidæ, Psychodidæ and Chironomidæ, especially in relation to the spread of disease, is very much needed. Our information on these noxious diptera is exceedingly scanty. Dr. Sambon will study the disease in the lower animals as well as in man; he will endeavour to establish in a definite manner whether pellagra can be looked upon as belonging to the group of protozoal diseases, and he will endeavour, helped by much previous experience, to demonstrate the parasite. Important results will be studied with a view to confirmation by other members of the committee, who will either work at the material sent home, or, if necessary, will join Dr. Sambon in the field. Owing to the large amount of work entailed it is proposed to send with Dr. Sambon properly qualified assistants to help him in the examination of patients, in laboratory work, and in the collection and study of insects. It is also suggested that arrangements be made for Dr. Sambon to receive assistance from local medical men and naturalists by associating them as correspondents.

Funds.

It is hoped to raise a fund of £1000 to defray the expenses of travelling, outfit, &c., and, if more is available, to afford adequate pay to such others as the committee may appoint to take part in the investigation, whether on the

[1] We hope to publish shortly a paper by Dr. Sambon giving the grounds for this belief.—ED. L.

field or at home. To raise this subscriptions will be necessary. Already the Colonial Office has promised £150 on condition that a further amount of £450 is found, both the London and Liverpool Schools of Tropical Medicine have promised subscriptions, and the President of the Italian Chamber of Commerce and others have contributed to the fund.

As we announced last week, at the last meeting of the Pellagra Investigation Committee, after Dr. Sambon had given an account of his views, the following resolutions were adopted:—

1. That the committee, after hearing Dr. Sambon's statement concerning the etiology of pellagra, are of opinion that it is a matter of importance, both on scientific and hygienic grounds, that the hypothesis formulated by Dr. Sambon shall be investigated.
2. That the committee are of opinion that any funds raised to defray the expenses of such investigation will be well spent.
3. That a circular be drawn up for the purpose of making known the objects of the committee in raising the funds necessary for the investigation.

We trust that the modesty of the demand which is made, coupled with the grave importance of the work to be done, will cause the money to come in at once.

MEDICINE AND THE LAW.

Two "Hygienic Institutes" Mulcted in Damages.

AT the Marylebone County Court recently, before Sir William Selfe, Mrs. Smith, the wife of a police constable, recovered £100 as damages against "The London Hygienic Institute, Limited," Baker-street. Mrs. Smith was canvassed at her home on behalf of the firm with a view to ascertaining whether she wanted a set of false teeth, and after the agent's visit had been repeated consented to have a number of teeth taken out with a view to their being replaced by an artificial set at £5 10*s*. The same business-like gentleman with another afterwards called upon her and the two between them extracted 12 of the plaintiff's teeth, with the result that they left her in a state of collapse, to be followed by three weeks' confinement to her bed with a medical man in attendance. It was alleged by her that some time before the above operations were concluded she was in so serious a condition that one of the men sent out for brandy, and that in consequence of her fainting one of them had forced her head between her knees. The plaintiff also stated that the reason why she allowed herself to be treated by the defendants was because she understood that the treatment would be painless. The defendants' evidence was to the effect that the plaintiff neither shrieked nor fainted, that no bending of the head was performed, and that no brandy was sent for, one of the men swearing that the plaintiff thanked him and his companion for what they had done and promised to recommend the "Institute" to her friends. The views of the jury upon these divergent statements of fact may be gathered from the verdict mentioned above, in accordance with which judgment was given, with costs.

On the same day on which his honour Judge Selfe was trying an action in London against the "Hygienic Institute" carrying on its trade in Baker-street, Sheriff Fyfe was disposing of a claim at Glasgow brought by a stationer named Lawson against a "Hygienic Institute," having its address at Elmbank-street in that town. Whether the two "Hygienic Institutes" are branches of the same establishment, or merely have selected the same attractive, if misleading, title, is not a matter of great consequence, but in any case they appear to resemble one another in the practice of dentistry, in the unfortunate results of that practice for their patients and in the view taken in the law courts of their liability when sued for negligence. In the Glasgow Sheriff's Court the findings were to the effect that the defenders, in extracting 17 of Mr. Lawson's teeth (in order that he might be supplied with an artificial set) broke his jaw and much lacerated his mouth, with the result that it would not be possible to fit it with artificial teeth unless a painful surgical operation were first performed. The resemblance between the two cases is completed by the fact that at Glasgow also the sum of £100 was awarded as damages. Actions brought against the "London Hygienic Institute" in respect of the extraction of teeth by unqualified persons will be found described in THE LANCET of Oct. 23rd, 1909, p. 1236, and of Nov. 27th, 1909, p. 1622. In these two instances the business referred to was carried on at an address other than Baker-street. No doubt the business of carrying on dentistry through the agency of paid assistants who have not had to qualify themselves by undergoing a long and expensive training is a profitable one. In the case to which we referred on Nov. 27th, 1909, we quoted the evidence of an assistant who said that he operated on 35 patients a day, which gives some idea of the business done. In these circumstances the financial loss arising out of a few actions for damages is not likely to put a serious check upon the trade. The public is not easily warned or deterred, and it prefers to read and be guided by specious advertisements to studying reports of trials which have a certain monotonous similarity. Its protection by new legislation is what is required, but apparently there is no immediate prospect of this taking place.

Unqualified Dentist: Conviction of Police Court Set Aside in the Irish Divisional Court.

A decision of the King's Bench Division (Dublin), which was given on Jan. 31st, follows the lines laid down in the case of Bellerby *v.* Heyworth and Bowen by the English Court of Appeal in May of last year.[1] A case was stated by one of the metropolitan magistrates at the instance of the defendant, John Byrne, of 36, Talbot-street, Dublin. The complainant, D. L. Rogers, had charged the defendant before the magistrate on May 18th last that he "did on the 26th April last, unlawfully take and use the title or description 'dentist,' implying that said defendant was specially qualified to practise dentistry and registered under the Dentists Act (1878) as a person specially qualified to practise dentistry." The charge also included that he did "take and use the title, addition, or description, namely, Mr. Byrne, the expert adapter of teeth; extractions, 1*s*., by my own special system; painless and bloodless. ....." The magistrate had on that occasion convicted the defendant and fined him £5 and costs, but had at the instance of the latter stated the case for the opinion of the King's Bench as to whether his decision was right in point of law. The evidence which had been before him was that the defendant was not registered under the Dentists Act; that he was not a legally qualified medical practitioner; and that he had placed the advertisement above mentioned outside his premises in a glass case on the day referred to. The magistrate (Mr. D. Mahony) said that he believed the evidence, and found as a fact that "the defendant did operate and practise as a person specially qualified to practise dentistry, and that he took and used the title 'dentist,'" and that he believed that the evidence had brought the defendant under the Act. After the arguments had been heard the court had reserved judgment. It was now decided by the Lord Chief Justice, Mr. Justice Wright, and Mr. Justice Dodd. The two former held that the conviction should be set aside on the technical grounds that the defendant had not gone far enough in his advertisements, &c. Mr. Justice Dodd, in concurring, pointed out that the Act prohibited a person from describing himself as a qualified dentist; the defendant did not advertise himself as such—he had "only held out to the public that he was acting from the experience of his own skill, and not indicating any special qualification." The result announced was that the conviction was set aside, the court holding "that the defendant's conduct did not come within the penal clauses of the Act relied on by the complainant."

A Dangerous Quack.

At the Clerkenwell police court recently, before Mr. Bros, a man named Charles Banks was convicted of offences under the Medical Act and was fined sums amounting to £25, with the alternative of three months' imprisonment. It was proved that the defendant was not upon the Medical Register; that he attended a Mrs. Davison, who was suffering from what was stated to be bronchitis; and that the husband of the patient believed that he was employing a qualified medical practitioner. Mrs. Davison died, and the defendant signed a death certificate which, after some doubt on the part of the registrar, was accepted. The result of this was that the register had to be corrected by statutory declaration. The defendant lived over a cat's-meat shop, accounting for this to a gentleman from the office of the solicitors to the Medical Defence Union by stating that he had to lecture to and coach students residing in the neighbourhood. To the same gentleman, Mr. Tyrrell, he also administered medical advice, making a pretended inquiry into his condition at a public-house, prescribing for him and informing him that he was

[1] See THE LANCET, May 29th, 1909, p. 1549.

suffering from consumption and so many other complaints that a very large sheet of paper would be needed if they were all to be written down. For this he charged a fee of 5s. He also recommended his supposed patient to try change of air and surroundings, and gave him a certificate to that effect. Mr. Tyrrell, as a matter of fact, enjoys very good health, and it was pointed out that such a certificate might easily be used to deceive and defraud a benefit society or for a kindred purpose. The defendant did not use a name-plate or otherwise indicate his pretensions to medical qualifications in a visible form, but had become known in the neighbourhood where he lived as "Dr." Banks. The Medical Defence Union is to be congratulated upon having brought him to book and on having proved up to the hilt charges which should satisfy every reasonable person of the dangerous possibilities of unfettered quackery.

THE HEALTH OF THE ARMY IN 1908.

II.[1]

Sanitation—(continued).

THE prevalence of sore throats in annual epidemic form at certain stations is referred to. Much work is being done in connexion with the disease, "and it is hoped that in due course some remedy may be discovered to reduce the exceptional sickness due to its prevalence." We find the words "in due course" a rather deliberate statement of policy. An account is given of a diphtheria outbreak at the Duke of York's School, Chelsea. There had been a prevalence of sore throats during the two previous years, but in no instance was the diphtheria bacillus found until Oct. 5th, 1908: a child was then found to be infected, and during the next three weeks six other cases occurred, as proved on bacteriological examination. On Oct. 24th a general inoculation with anti-diphtheritic serum was commenced. 535 boys, 38 students, and a few others were thus treated; specimen swabs were taken from every throat, and on examination 49 boys were found to be infected, and acting as carriers; also seven schoolmasters, and some members of their families, gave positive results. The diphtheria cases were removed to the Metropolitan Asylums Board hospital, and the carrier cases were isolated locally and treated with anti-diphtheritic serum. By Oct. 26th the school was free from disease, and no cases were reported subsequently. This outbreak appears to have been dealt with in a most prompt and thorough manner, and the authorities are to be congratulated on the result. This is now the third year in succession in which sore throats and diphtheria have appeared at the school, a fact which justifies the transfer of the boys to new buildings near Dover. The occurrence of throat illness three years in succession, in the first two with undefined, or ill-defined, diphtheritic features, clinically and bacteriologically, is epidemiologically interesting; in the third year the specific diphtheritic nature of the infection has been demonstrated. It is a question that cannot now be answered, What was the exact nature of the throat illness in the two preceding years?

The report states that the procedure as regards disinfection after occurrence of contagious disease has been somewhat modified; instead of disinfection of barrack rooms with sulphurous acid gas or formalin vapour, whitewashing walls, and using fluid disinfectants for bedsteads and woodwork, we learn that, on the recommendation of the Advisory Board, more attention is now paid to the disinfection of personal effects and the immediate surroundings of the individual attacked. It is recognised that infection proceeds largely from personal clothing and bedding; and that effectual vaporisation of a disinfectant is dependent on exact requirements as to the temperature and degree of moisture in the air, conditions not always to be secured in practice. "Vapour disinfection," or, as we should prefer to call it, "aerial disinfection," is now only used as a last resort.

The scales of barrack accommodation have been revised and a slight increase of floor space allowed (60 instead of 57 square feet). Stations abroad are now divided simply into subtropical and tropical, all being included in the former category with an increased allowance of 720 (instead of 650) cubic feet, except six stations, which remain at the same highest scale (1000 cubic feet) as before. The conclusions arrived at by Inspector-General Delorme of the French War Office are quoted with approval. These are, shortly: (1) that disease rarely originates in barracks, either old or new; (2) it is generally introduced from outside; (3) when introduced it generally spreads by overcrowding, irrespective of the age and construction of the buildings; (4) space between sleeping cots is the most important requirement in barrack hygiene; (5) the modern tendency to reduce the cubic space and area of the sleeping room in order to provide dining and recreation rooms is condemned. These conclusions we venture to think thoroughly sound. The principal sanitary improvements that have been, and are now being, undertaken in our barracks are: (1) provision of night urinals in lieu of urine tubs; (2) replacement of earth-closets by water-closets; (3) substitution of pedestal water-closets for trough latrines; (4) provision of hot water for bathrooms, and (5) of sanitary annexes to married quarters; (6) installation of incandescent lighting where gas is in use. All of these changes are to be welcomed; they have long been called for. Improvements are also being effected in several of the sewage disposal works in the Aldershot Command and on Salisbury Plain. Great improvement is noted to have taken place in the sanitary condition of the large training camps throughout the country, and to this is attributed the freedom from infectious disease that they have enjoyed. We are glad to record our conviction from reading this report that, both as regards treatment of the sick in hospital and care of the sound in camps and barracks, matters were a year ago in a thoroughly satisfactory condition—a condition which has surely been maintained or bettered.

The Mediterranean Area.

This includes Gibraltar, Malta, Crete, Cyprus, and Egypt, the climatic and health conditions of these stations being in the main similar. Cyprus shows an increase in the admission-rate compared with 1907; the other four stations all show a reduction. Compared with the quinquennium 1903-07, all show a reduction in admissions, constantly sick, and invaliding. The average strength of the troops in the Command amounted to 15,548.

At Gibraltar there were a slight increase in enteric fever and a perceptible decrease in venereal disease compared with the previous quinquennium. The health of the troops generally was satisfactory. The cases of enteric fever numbered 23, of which 17 occurred in the three months September to November. All were sporadic cases except 5 admitted from casemate barracks within 14 days; the cause of this small outbreak could not, however, be ascertained. Not a single case of Malta fever occurred. Attention is drawn to some defects in the water-supply, which in a fortress of this kind must always be a matter of difficulty. Berkefeld filters are in use for the casemate barracks, the catchment area supplying which is unavoidably exposed to pollution, and they are said to work satisfactorily. A scheme has been prepared for supplying these filters to all barracks.

In Malta the improvement in the health of the troops as compared with the previous quinquennium is striking; this is as might have been expected, but is none the less a matter of congratulation to the medical service. Admissions have fallen from 569·2 to 434·5, and constantly sick from 39·79 to 28·20. This cannot be accounted for by the new rule regarding treatment of slight cases in barracks. The deaths were 2·65 compared to 5·69, and the invalids sent home were 9·12 compared to 38·65. The improvement has been general, but most marked in Malta fever, enteric fever, and pyrexia of uncertain origin. The ratio per 1000 of admissions for Malta fever has been only 0·8, compared with the quinquennial ratio of 39·8; there have been no deaths (compared with 1·09), and the invalids have been 0·5 compared with 20·55. Altogether there were seven cases—five men, one woman, and one child; six out of these seven cases had taken unboiled milk. "The fact that cows in Malta are liable to contract the disease, and that their milk, if consumed unboiled, is as dangerous as goat's milk, has been pointed out to all ranks." Six cases of enteric fever occurred, three of them being due to a paratyphoid organism; in the previous year, 12 out of 15 enteric cases were attributed to a similar bacillus. The cause

[1] No. I. was published in THE LANCET of Jan. 29th, 1910, p. 322.

does not seem to have been traced with certainty, but the eating of unwashed, or partially washed, vegetables is thought to have been the most probable mode of infection, Maltese vegetable gardens being generally watered with cesspool matter. The danger was notified in general orders, and it is mentioned that there have been much fewer cases since. Pyrexia of uncertain origin caused 303 admissions; blood examinations were made in all cases; enteric, paratyphoid, and Malta fever were excluded. It is thought that infection may be conveyed by some species of sandfly, and reference is made to the similar disease in Herzegovina which has been proved to be spread by Phlebotomus Papatasii; a special officer has been deputed to investigate the matter. There were 12 cases of tubercle of the lung, 11 of them occurring in men living in casemate barracks. This is suggestive, and we think would be a reason for vacating such quarters; their adequate ventilation must be almost impossible. Considerable advance has been made in sanitation. The civil drainage has been considerably, and the military drainage slightly, extended during the year, and the flushing arrangements much improved; there are still many dry-earth seats to be replaced by water-closets, and another pressing need is "the substitution of up-to-date flushing urinals for the present unspeakable night urine tubs." The provision of 500,000 gallons of sea water daily for flushing purposes down the civil government main sewers has been of great benefit; the drinking water-supplies have also been improved, and the risk of scarcity of good water in dry seasons reduced to a minimum.

In the Crete garrison the health of the troops has been good throughout 1908.

In Egypt improvement has been distinct, though slight, and has been evident in the more serious diseases, such as enteric, Malta fever, dysentery, and malaria. There were 19 cases of enteric (3·6 per 1000, compared with 6·4 for the preceding five years). The reduction is attributed partly to the abolition of the dry-earth system, cresol solution being used in the pans and for scrubbing the floors, seats, buckets, and urinals, according to the present practice in India. The result is an entire absence of fæcal odour and of flies. The practice of enteric, or rather anti-enteric, inoculation has been carried out with excellent results in the Coldstream Guards and Inniskilling Dragoons. Only two cases occurred in the former regiment and none at all in the latter during the last 14 months of their stay in the country. Venereal disease also showed a decrease.

South Africa.

In the South African Command the average strength was 14,075. The admission ratio was 359·3 and the deaths 3·55, showing a marked improvement on the quinquennial ratios of 565·7 and 7·44 per 1000. The invaliding ratio was also very greatly reduced, being 6·32 as compared with 22·15. The report alludes to the 1908 figures as being "almost three and a half times less than" the quinquennial average. This is a clumsy and faulty expression; what is meant is that the invaliding is "little more than a quarter of" what it had been in the previous period. The improvement in health was manifest in all the stations throughout the colony. Wynberg shows the highest admission rate, 526·6, mainly due, as in past years, to the prevalence of venereal disease. The mortality ratio, 3·55, is a marked improvement on the quinquennial average of 7·44, and is the lowest recorded since the war. There were 130 cases of enteric fever (9·2 per 1000), yielding a death-rate of 0·78 per 1000. Though this is a great improvement on the previous quinquennium (25·7 admissions and 2·8 deaths) there does not seem to be any rapid diminution in the prevalence of this disease; in 1907 the admission ratio was 10·0, and in 1906 9·3. The report states that, "as regards the year 1907, the comparison is favourable, but not to such an extent as might be expected." We can hardly regard the position as satisfactory (considering the figure for 1906), but no doubt the question of enteric prevalence and prevention is a very difficult one to deal with. The percentage of mortality to attack is low, 8·5, so that possibly slighter cases are now diagnosed as enteric than in former years. A large amount of laboratory work is being done in the endeavour to clear up the ill-defined types of fever that are met with; it has to be acknowledged, however, that a close examination of the records of every case of enteric admitted during the year fails to elucidate the precise manner in which the disease was contracted. The sanitary officer of Cape Colony district, referring to an outbreak at Middelburg, remarks that "the distribution of cases and the intervals between them give rise to a strong suspicion that the infection was handed on from one case to another through the agency of the latrines." It is to be noted that the dry earth system is still in use at Bloemfontein, Pietermaritzburg, Middelburg, Maitland musketry camp, and at the signalling school and Quagga musketry camp at Pretoria—Pretoria, Middelburg, and Bloemfontein are the three stations where the enteric incidence was highest. Although not suggested in the report, it appears to us that there may be a connexion between these two facts. An outbreak of scarlet fever occurred at Bloemfontein; the source of infection was traced to a bundle of past-worn blankets returned to store and then distributed as a cold weather issue. Dysentery continues to decrease, the admission-rate being 1·7, compared with the quinquennial average of 11·1 per 1000. Malaria also shows a decrease, 7·3 compared with 13·4 admissions per 1000; almost all the cases are recurrent. Pneumonia has hitherto been a serious disease in South Africa, the quinquennial death-rate having been 0·85 per 1000 (higher than for any other disease except enteric); this year the admissions have been only 2·1 and the death-rate 0·14 per 1000. Tonsillitis is very prevalent. The admissions have been actually more numerous than those under any other heading except local injuries—namely, 38·8 per 1000, as well as 5·8 for sore throat, but this figure is considerably less than the quinquennial average (47·8).

In regard to sanitation in this command much has been done during the year, and no doubt much remains to be done. It is stated that "the water-supplies at the various stations have been reported as satisfactory" (p. 71); and immediately afterwards that "the practice of sterilising the drinking water by boiling is carried out at all stations"; probably therefore what is meant is that the supplies are *not* satisfactory until they are boiled. No bacterial contamination of importance has been found, nor has any disease prevalence been considered to be due to the water-supply. We notice that the pendulum has swung back again in regard to clothing: "Khaki drill came into general use in the command on April 1st; ..... being washable gives it a distinct advantage over khaki serge as regards cleanliness"; it does not seem long since the "service dress" of khaki serge was introduced as universally applicable, hygienic, comfortable, &c. "Our little systems have their day"—now khaki drill is worn again.

India.

The average strength of the European troops serving in India was 66,522, and of this large force the health statistics are, on the whole, satisfactory. The ratios for admission to hospital (836·2) and for deaths (9·11) are slightly higher than in 1907, but well below those for the preceding quinquennium (878·6 and 10·88). The invaliding ratio has been much lower, 15·67, compared with 28·04. The year 1908 was marked by a great prevalence of malaria, for which the rates for admission (244·6), constantly sick (8·35), and death (0·51) have exceeded the quinquennial average. It was also a cholera year, there having been 43 cases and 35 deaths.

There were rather more cases of enteric fever (14·6 per 1000) than in the previous year, but fewer than the quinquennial average (16·8); the death-rate was also lower (2·79) than that for the five-year period (3·28). The stations that had the highest admission rate were Jubbulpore (34·6), Rawal Pindi (31·9), Peshawar (31·3), and Multan (30·8 per 1000). On the other hand, some stations that have had a very bad reputation for enteric were comparatively free, such as Ambala (8·3), Agra (9·8), Lucknow (14·3), Quetta (17·9), Mhow (4·1), Poona (9·8), and Kirkee (10·1). Much attention has been paid to the "carrier" problem, the view being taken that such men are among the most frequent sources of infection. A connexion between enteric prevalence in August and September and the great increase of flies at that time was apparently established at Poona and Kirkee; also at Secunderabad. Transmission through clothing was illustrated at Kirkee. An officer died from enteric fever; two months later his clothes (which had not been disinfected) were sold by auction. Three sergeants who bought clothes were attacked 16, 29, and 31 days later.

Ten cases occurred at Ahmednagar in two companies of the Worcestershire Regiment, and the circumstances of this outbreak are very instructive. "There had been no cases among European troops in the station for four months. The two companies had recently moved into the artillery lines, the latrine accommodation in which was admittedly insufficient for the increased number of men, and the regimental conservancy establishment was not equal to the increased work. As a result removal of the excreta was not properly carried out, and the latrines became fouled; while flies, apparently bred in the city filth trenches some 1900 yards distant, swarmed in the latrines. The use of a disinfectant solution in the latrine pans, which had been in force for more than a year, but which had not received the sanction of Government, was discontinued the month before the outbreak, and the dry earth method re-introduced. The first case was admitted two days after arrival from Belgaum, the second two days later. The third case was ill in barracks for 7 or 8 days before reporting sick." Precautionary measures were then taken. The outbreak was confined entirely to these lines and ceased 23 days after the commencement, with the exception of one case, which was admitted three weeks later. We congratulate the authorities on the promptitude with which this outbreak, once it had started, was taken in hand; but with regard to the circumstances that brought it about: (1) *How* was it that the latrine accommodation was allowed to be insufficient? (2) *Why* was the conservancy establishment not brought up to the number necessary for the work? (3) *Who* was responsible for discontinuing the use of disinfectant solution, or for not using it when it was obvious that the latrines were in need of special care and supervision? (4) Was any action taken to prevent a repetition of such an occurrence?

Energetic measures are being adopted to deal with the danger from carrier cases: a depôt has been established at Naini Tal where convalescents from four divisions—about one-third of the convalescents from all India—are received, and isolated from other troops. An expert officer, provided with a laboratory, carries out bacteriological investigations of urine, fæces, &c., and the excreta are sterilised before being disposed of. 310 convalescents were received here from the beginning of April to the end of the year. It has been found that the admissions for enteric fever from all the stations which sent convalescents to Naini Tal show a reduction of 9 per cent. on the figures for 1907; while the remaining stations show an increase of 26·6 per cent. A similar depôt for Southern India has been established at Wellington. Several important preventive measures have been adopted. The use of alkaline cresol solution for latrine pans instead of dry earth is now universal (every rule has its exceptions, *teste* Ahmednagar); it is not only a superficial disinfectant, but also a deterrent to flies. Systematic efforts are made to reduce their number in cantonments by getting rid of their breeding places in collections of filth, litter, and rubbish. And a note of cheerfulness is apparent in the statement that at Mhow "the breeding of flies in the vicinity of barracks was prevented by the prompt removal of such breeding material as the excreta of animals by flying sweepers. The cavalry regiment, which at one time spent as much as 60 rupees per month on fly papers, was able to discontinue their use after the introduction of this system." At this station (Mhow) the improvement was extraordinary, the enteric admission-rate having fallen from 22·3 per 1000 in 1907 to 4·09 in 1908. Lastly, anti-typhoid inoculation was carried out during the year, and the report says: "Speaking generally, it may be said that the attack-rate in inoculated men is reduced to rather less than one-half, and the case-mortality to about two-thirds, of the rates in the uninoculated."

As already mentioned, 1908 was a bad year for malaria, the admission-rate (244·6) having been higher than in any year since 1903, and the death-rate (0·51), the highest since 1902. The fever was worst at Meerut (1055 per 1000 admissions), Peshawar (675), Lahore (538), and Sialkot (527). At all these places there was a great proportionate increase in the rainfall. At Rawal Pindi there are an enormous increase in the rainfall and a slight rise in malaria, and at Calcutta a large increase in rainfall with a reduction in malaria; at Quetta, Bombay, Bareilly, and Cawnpore an increase in malaria with a diminution of rainfall. This relationship is a matter of great importance and still requires to be worked out in connexion with modern prophylaxis. Apparently no cut-and-dried system of anti-mosquito measures will suffice, but each station requires its own plan of campaign. Public funds will have to be largely drawn upon for the purpose, and we have no doubt that they will be forthcoming. Mosquito curtains are now provided at a few particularly malarious stations. Unfortunately, they interfere with the use of the punkah, and many men will not use them. Prophylactic doses of quinine were given in 53 out of 58 stations in the plains during the fever season, 10 or 15 grains on two consecutive days weekly; the results were not by any means so favourable as might have been hoped for. Larvicidal measures have been continued, but it is difficult even with expenditure on a considerable scale to rid certain places of mosquitoes. Fumigation of barrack rooms was tried at Peshawar and Ambala. The results all round of malaria prophylaxis in India are so far, it must be confessed, disappointing. Although 1908 was more malarious (with an admission-rate of 244·6) than any year since 1903, it is not to be supposed that it was a bad year compared with former times; between 1871 and 1900 there were only three years when the admissions fell below 300 per 1000, and in one year the rate was as high as 734 per 1000. Besides malarial fever there has been an increase in "pyrexia of uncertain origin," formerly called simple continued fever, most marked at Peshawar, and no doubt partly of malarial nature.

Venereal diseases showed a further reduction in 1908, the admission ratio for all forms being 69·8, compared with 162·3 for the previous quinquennium; the improvement is noticeable in all forms of these affections. It is attributed to the personal influence exercised by commanding officers, the spread of temperance, the more thorough treatment by checking relapses, and to the fact that a man loses proficiency pay when found to be suffering from these complaints.

Smaller Stations.

With regard to the group of smaller stations, scattered in their distribution, a remarkable decrease in sickness is noticeable in Bermuda. There has also been improvement all round in Ceylon, South China, and the Straits Settlements, but in Jamaica, West Africa, and Mauritius the health generally has not been so good.

The general impression to be derived from a study of this report on the health of the army for 1908 is one of satisfaction with the methods employed and the results attained. It should be added that the report itself is admirably arranged and the masses of facts and figures are set forth with a minimum of typographical error.

TUBERCULOSIS IN BRIGHTON.—The Brighton town council on Feb. 3rd agreed to the recommendation of its medical officer of health, Dr. Duncan Forbes, that during an experimental period of six months patients suffering from tuberculosis of bones and joints be treated at the sanatorium on the same conditions as those on which patients suffering from pulmonary phthisis are now admitted. Dr. Forbes has estimated that the probable expense of opening for a period of six months a ward for 12 patients would be £140.

HOSPITAL ECONOMIES.—The recently published annual report of the Kent and Canterbury Hospital describes various changes in the working of the charity which have been instituted since last year. For some time the finances have been causing uneasiness to the management and considerable encroachments upon capital have been made. Through the generosity of the President, Lord Northbourne, it was made possible to call in the services of an expert to advise if and how matters could be improved. For this purpose was engaged Mr. Godfrey H. Hamilton, secretary of the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, who in 1907 secured the Speyer prize for the best essay on hospital management. The recommendations made by Mr. Hamilton include the closing of two wards, which it is to be presumed were superfluous, and the throwing open of contracts to a wider field. He also had advocated small payments by patients, concerning the advisibility of which there must be doubts. It will, however, be necessary to experience a full year's working before the effect of the alterations can be estimated.

THE LANCET RELIEF FUND.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., M.D. Lond.), the President of the Royal College of Surgeons of England (Mr. HENRY T. BUTLIN, D.C.L., LL.D.), the President of the General Medical Council (Sir DONALD MACALISTER, K.C.B., M.D. Cantab., LL.D., D.C.L., F.R.C.P. Lond.), and the EDITOR of THE LANCET (S. SQUIRE SPRIGGE, Esq., M.D. Cantab.), with Sir JOHN TWEEDY, F.R.C.S., as Honorary Auditor.

Almoners.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Scope of the Fund.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

Chronic Cases Ineligible.

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be benefited permanently thereby.

Twenty-first Annual Report of the Almoners,

For the year ending December 31, 1909.

IN presenting their Twenty-first Annual Report, the Almoners have to record that the balance in hand on Dec. 31st, 1908, was £267 1*s.* 2*d.*, to which on Jan. 1st, 1909, the Proprietors of THE LANCET added the sum of £300, making a total sum of £567 1*s.* 2*d.* available for grants during the year 1909.

The number of applications for assistance received by the Almoners during the year was 27, of which number 4 were rejected by the Secretary as quite outside the scope of the Fund; 2 were declined by the Almoners after due consideration; 7 application forms were not returned—doubtless owing to the applicants realising that their cases were not of a nature qualifying them to receive assistance from the Fund; and 14 applicants were relieved by gifts or loan of money ranging from £10 to £25. The relief of these 14 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £235. The total amount voted by the Almoners since the commencement of the Fund is £6354 6*s.* 3*d.*

As in past years, the Almoners have received expressions of gratitude for the assistance which they have afforded to applicants—in some urgent cases the relief being given within a few hours of the application being received. Thus the timely help of the Fund has enabled more than one applicant to keep his practice together when pressing claims

threatened to destroy his home and his means of livelihood; and the widow and the orphan have also been helped at the moment of their greatest need.

Mr. Henry T. Butlin, D.C.L., LL.D., having succeeded Sir Henry Morris as President of the Royal College of Surgeons of England in July last, thereupon became an Almoner of the Fund, and kindly consented to act as such. The Almoners desire to record their warm appreciation of the valuable services rendered to the Fund by Sir Henry Morris during the period of his Almonership, and to congratulate him upon the honour of a baronetcy conferred upon him by His Majesty.

It is with profound regret that the Almoners have to record the death, in March last, of their colleague, Mr. Thomas Wakley, Editor of THE LANCET, who, with his father, the late Thomas Wakley, founded the Fund in 1889. Father and son took a keen interest in the Fund, and thereby in the struggles of the poorer members of the profession, and it is a source of gratification to the present Almoners to know that the sympathetic work of father and son is to be carried on by the present Proprietors of THE LANCET—all members of the Wakley family. To fill the vacancy created by the death of Mr. Wakley, the present Editor of THE LANCET (Dr. Squire Sprigge) has been appointed an Almoner.

The Almoners have also to record with regret the death of the Honorary Auditor, Sir Thomas Smith, Bart., K.C.V.O., F.R.C.S. Eng., who succeeded the late Sir Henry Pitman in his office, and whose interest in the Fund was none the less sincere and valuable because his tenure of the post was, alas, so brief.

In conclusion, the Almoners would point out that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund, but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides*, as well as of the suitability, of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed)

R. DOUGLAS POWELL. HENRY T. BUTLIN.
DONALD MACALISTER. S. SQUIRE SPRIGGE.

Feb. 7th, 1910.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1909.

DR.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1909	267	1	2
,, Proprietors of THE LANCET, Jan. 1st, 1909 ...	300	0	0
	£567	1	2

CR.	£	s.	d.	£	s.	d.
By Loan:—						
Case No. 825				25	0	0
By Gifts:—						
Case No. 807 (voted 1908) ...	15	0	0			
,, 810 (,, ,,) ...	15	0	0			
,, 808	20	0	0			
,, 812	10	0	0			
,, 816	15	0	0			
,, 817	10	0	0			
,, 823	10	0	0			
,, 824	15	0	0			
,, 826	10	0	0			
,, 827	10	0	0			
,, 830	15	0	0			
,, 832	20	0	0			
,, 834	10	0	0			
,, 836	25	0	0			
,, 837	10	0	0			
				210	0	0
Balance at Bank, Dec. 31, 1909 ...				332	1	2
				£567	1	2

We find by the Banker's Book that the actual Balance on Jan 1st, 1909, to the credit of the Fund was £267 1*s.* 2*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1909. The balance at the Bank on Dec. 31st, 1909, was the sum of £322 1*s.* 2*d.*

We have examined this statement and compared it with the Vouchers and Bank Account, and find same correct.

Jan. 31st, 1910. SLADE, LEWIS, and SLADE, Chartered Accountants.

INTERNATIONAL MEDICAL CONGRESS, 1913.

ELECTION OF GENERAL COMMITTEE.

Dr. F. W. PAVY presided on Feb. 7th over a meeting, attended by many of the leading members of the medical profession, which was held at the Royal Society of Medicine. The meeting was convened for the purpose of electing a General Committee for the International Medical Congress to take place in 1913 in London, and to discharge other business in connexion with that Congress. Dr. Pavy explained that the National Committee for Great Britain had dissolved and had formed itself into the nucleus of a General Committee to take its place, and the first thing the meeting would have to do would be to sanction the enlargement of that General Committee.

Mr. D'ARCY POWER then read out a list of more than 350 names of men proposed for the committee, and these were duly elected after being proposed from the chair. The names were a very representative list, certain obvious omissions being explained by the fact that the gentlemen in question, being already members of the old National Committee, formed the nucleus in question of the General Committee.

Dr. PAVY submitted to the meeting the name of Sir Richard Douglas Powell, President of the Royal College of Physicians of London, for the post of chairman of the General Committee.

This was carried with acclamation, and Sir R. Douglas Powell was inducted into the chair by Dr. Pavy, after which a hearty vote of thanks was accorded to Dr. Pavy for his exertions in the past years as chairman of the National Committee, in which vote the services of the honorary secretaries were included.

Sir R. DOUGLAS POWELL then announced that the next business was the choice of a President, a treasurer, and a secretary-general for the International Congress in 1913. He pointed out that the appointment of gentlemen to these posts was a responsible task, and that great discrimination must be shown in the election.

Mr. A. PEARCE GOULD suggested that the wisest course for the General Committee to adopt would be to elect a small committee to inquire into and to study the question, with instructions to report to the General Committee at an early date, nominating candidates for the different posts. This report would be circulated before the next meeting of the General Committee so that the election could then be made.

Professor W. OSLER seconded the proposal, and pointed out the advisability of putting so important a matter into the hands of a carefully selected committee.

Mr. BUTLIN supported the proposal.

Sir HAVELOCK CHARLES thought that the meeting as constituted might well proceed to the election of a President, but a motion to that effect met with no support.

Sir R. DOUGLAS POWELL, in reply to a question, said that it was presumed that it would be left to the discretion of the committee to nominate one or more candidates for each post.

Mr. Pearce Gould's proposal was now put as a motion and carried, and the following are the names of the committee appointed:—The President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, the Regius Professor of Medicine of Oxford, the Regius Professor of Physic of Cambridge, Sir William Church, Sir Thomas Barlow, Sir William Allchin, Dr. Pavy, Dr. Norman Moore, Dr. S. J. Sharkey, Dr. Percy Kidd, Sir W. Watson Cheyne, Mr. R. J. Godlee, Mr. C. T. Dent, Mr. G. H. Makins, Mr. Pearce Gould, Sir W. Macewen, Sir Charles Ball, Sir William Whitla, Sir Malcolm Morris, Mr. D'Arcy Power, Mr. Charters J. Symonds, Surgeon-General A. M. Branfoot, Dr. A. Newsholme, Principal Medical Officer of the Local Government Board, the Director-General of the Army Medical Department, the Director-General of the Medical Department of the Admiralty, Sir Shirley Murphy, Sir John Tweedy, Dr. G. A. Gibson, and Dr. G. Newman, Principal Medical Officer of the Board of Education.

The business of the meeting was concluded with a vote of thanks to the chairman.

BRITISH MEDICAL BENEVOLENT FUND.

AT the January meeting 16 cases were considered by the committee, and grants amounting to £155 made to 15 of the applicants. Appended is an abstract of the cases relieved:—

M.D. Durh., aged 58 years. Is incapacitated by hemiplegia and dependent on a sister, whose income is very small. Used to be a man of considerable means, but owing to a series of misfortunes over which he had no control is now practically penniless. Voted £10 in two instalments.

M.B.Cantab., aged 41 years. Used to practise in London, but was obliged to give up owing to a long illness. Is now sufficiently recovered to do locum-tenency work, but finds great difficulty in obtaining engagements at this time of year. No income and wife a chronic invalid. Voted £10, of which half was subscribed by another society anxious to help the applicant.

L.S.A., aged 70 years. Has been quite incapacitated for the last three or four years and is dependent on a small allowance from a local medical benefit society and slight help from relations. Voted £12.

Daughter, aged 53 years, of late M.R.C.S., L.S.A. Only certain income about £10 a year, and endeavours to support herself by taking boarders, but was unable last year to cover her unavoidable expenses. Voted £10.

Widow, aged 33 years, of M.B., M.Ch. Glasg. Only income about £20 a year, and asks for a little help towards school fees for her only child, a boy, aged 9, who is a candidate for Epsom College. Is endeavouring to obtain a post as housekeeper or companion. Voted £10.

Daughter, aged 32 years, of late M.R.C.S. Eng., L.R.C.P. Edin. Used to support herself as a shorthand typist, but about five years ago developed phthisis, and has since been unable to work. Dependent on her mother, an Epsom pensioner, and a sister who is a clerk. Voted £10 in two instalments.

Daughter, aged 38 years, of late M.R.C.S., L.S.A. Is a chronic invalid, and only able to help her mother, whose income is insufficient for the support of both. Relieved once, £10. Voted £10 in two instalments.

Widow, aged 60 years, of M.R.C.S. No income and dependent on children, who can ill afford to help. Relieved six times, £70. Voted £12 in 12 instalments.

Daughter, aged 72 years, of late M.R.C.S., L.S.A. Income less than £20 a year; earns a few shillings occasionally by needlework. Relieved ten times, £101. Voted £12 in 12 instalments.

Daughter, aged 58 years, of late M.R.C.S., L.S.A. Was a matron at a large school for several years, and now endeavours to support herself by sewing. Eyesight failing and health indifferent. Relieved three times, £36. Voted £12 in 12 instalments.

Widow, aged 52 years, of M.R.C.S., L.S.A. Income very small, but with the help of this Fund has been enabled to keep a small home and bring up her family. One boy still at school, having won a scholarship. Relieved 14 times, £162. Voted £12 in 12 instalments.

Widow, aged 65 years, of late L.F.P.S. Glasg. Husband's savings exhausted by a long illness ending in death about 18 months ago; endeavours to support herself by taking boarders. Relieved twice, £10. Voted £12 in 12 instalments.

Widow, aged 36 years, of M.R.C.S. Eng., L.R.C.P. Edin. Asks for help to send a daughter to Canada as a mother's help. Relieved once, £10. Voted £5.

Widow, aged 58 years, of L.R.C.P., L.R.C.S. Irel. Unprovided for at husband's death a few years ago and dependent on friends and the help of this Fund. Relieved five times, £47. Voted £6 in six instalments.

Daughter, aged 55 years, of late M.R.C.S. Since father's death several years ago has supported herself by a small school, but has lost several pupils owing to competition and removals. Relieved three times, £43. Voted £12 in 12 instalments.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.—The London County Council has extended for a further period of three months the agreement with the Victoria Jubilee Institute of Nurses for the treatment of school children suffering from infected ears. The scheme, which was referred to in THE LANCET of Feb. 13th, 1909, was put into force in Hackney, Shoreditch, and Bethnal Green on Oct. 1st, 1909, and the Education Committee stated that a further three months' trial would be necessary before its merits could be definitely decided.

A RADIUM SPA IN CORNWALL.—A scheme is on foot to raise capital for the purpose of establishing a health resort near St. Ives in Cornwall that shall be replete with the appliances and fittings of a modern balneotherapeutic institution. The idea has arisen out of the fact that it has been found that the radio-activity of the large volumes of water in the Trenwith mines and in the springs also ranks, according to Sir William Ramsay, K.C.B., F.R.S., "with the most radio-active known." Negotiations are already in progress, it is stated, to secure land in the immediate neighbourhood of St. Ives for the building of hotels and bathing establishments. The venture will be watched with interest, not only from a medical point of view, but also in regard to its effect upon the peculiar insular ideas which a large section of the public holds concerning the uniqueness and superiority of health resorts abroad.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The County of Durham.—Dr. T. Eustace Hill thinks that the official estimate of the population—843,770—undoubtedly too low, and he points out that if the excess of births over deaths be alone considered the population of the county in mid-1908 would reach 875,109. The fact that there was a notable increase in the birth-rate is indeed good news in face of the steady decline in this rate which is taking place in so many districts. The death-rate, based on the official estimates, was 17·5 per 1000, which shows an increase of 0·5 on that of the previous year. There was, unfortunately, a large increase in the infantile mortality rate, which reached 151 per 1000 births, the excess being caused largely by the diarrhœa mortality which occurred in the third and fourth quarters and which is ascribed to the high temperature experienced in September. The infant mortality was much lower in the boroughs than in other parts of the county, and the rates in the several districts ranged from 241 per 1000 births in Willington to 44 in Stanhope. In connexion with this important subject we see that one of the medical officers of health objects strongly to the adoption of the Notification of Births Act, and he thinks that the official inspection which follows notification would be resented by the independent people of the district, a resentment in which, he adds, they would have his sympathy. This is certainly a difficult attitude for a public official to adopt, though we can fully understand the objections of practitioners to the Act. There was only one case of small-pox notified in the county in 1908, but Dr. Hill draws attention to the fact that the rapid growth of "conscientious objection" is bringing about a very dangerous condition of affairs, and that when small-pox occurs there cannot fail to be many innocent sufferers for whose treatment in the isolation hospitals the existing accommodation will be found to be utterly inadequate. As regards the control of diphtheria, it is encouraging to find greater use being made year by year of bacteriological examination, and in one of the Durham districts swabs are systematically taken from the throats of all convalescents. One medical officer of health regards the schools as the breeding-ground of diphtheria, and he thinks that the schoolmasters are too eager to have the children back to school. Enteric fever was very prevalent in Durham during 1908, especially in certain districts, and several of the medical officers of health are inclined to ascribe some of the increase to the consumption of polluted shellfish gathered in the Tees estuary. Certain of the small-pox hospitals in the county are being used, in the absence of small-pox, as sanatoriums for pulmonary tuberculosis, and it looks as if these institutions may be increasingly thus employed. The work of the medical inspection of school children in this county is carried out under the supervision of the county medical officer of health with the aid of three whole-time assistant medical officers and three nurses. The question of housing is one of special importance in the county of Durham with its large mining population, and several of the district reports deal with the subject. But Dr. Hill observes that there is still a very large number of houses occupied by the industrial classes which are inadequate for the families which they have to accommodate, and he draws attention to the objectionable old pit cottage which contains one living-room and perhaps a small back kitchen on the ground floor with a low attic which has no fireplace and which is approached by a step-ladder. These attics are very frequently insufficiently lighted and ventilated, and their condition in hot weather is little short of appalling. Apparently several of the sanitary authorities are reluctant to deal with these hovels under the Housing Acts, and when they do take action it is found that they do not always receive adequate support from the magistrates. There is the further difficulty that in most of the populous places the supply of houses does not meet the demand. Dr. Hill evidently hopes that the new Housing Act will afford him some relief, and we earnestly hope that he will not be disappointed. In the Sunderland rural district some 50 houses have been erected under Part III. of the Housing Act of 1890, and we trust that Dr. Hill will in his future reports tell us what his experience as regards these cottages has been.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8420 births and 5436 deaths were registered during the week ending Feb. 5th. The annual rate of mortality in these towns, which had been equal to 14·8 and 16·3 per 1000 in the two preceding weeks, further rose to 17·0 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns averaged 15·6 per 1000, and the mean rate in London during the same period was equal to 15·2. The lowest annual rates of mortality recorded in the 76 towns last week were 6·0 in East Ham, 8·0 in King's Norton, 9·1 in Willesden, and 10·6 in Bournemouth; the rates in the other towns ranged upwards, however, to 21·4 in Stockton-on-Tees, 22·3 in Liverpool, and 23·7 in Barrow-on-Furness and in Swansea. In London the recorded death-rate last week was equal to 17·2 per 1000. The 5436 deaths registered in the 76 towns last week showed a further increase of 223 upon the numbers in recent weeks, and included 354 which were referred to the principal epidemic diseases, against 278 and 361 in the two preceding weeks; of these 354 deaths, 157 resulted from whooping-cough, 67 from diphtheria, 48 from measles, 38 from diarrhœa, 30 from scarlet fever, and 14 from "fever" (principally enteric), but not one from small-pox. The mean annual rate of mortality in the 76 towns last week from these epidemic diseases was equal to 1·1 per 1000, against 0·9 and 1·1 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Croydon, East Ham, Gateshead, Middlesbrough, or in eight other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·3 in Barrow-in-Furness, 3·9 in Newport (Mon.), 5·3 in Hastings, and 5·7 in West Hartlepool. The fatal cases of whooping-cough, which had steadily increased in the four preceding weeks from 77 to 165, slightly declined last week to 157; they caused annual death-rates, however, equal to 2·3 in Hastings, 2·5 in Barrow-in-Furness, 2·8 in Burton-on-Trent, 3·8 in West Hartlepool, and 3·9 in Newport (Mon.). The 67 deaths referred to diphtheria showed a further increase upon recent weekly numbers, and included 17 in London and its suburban districts, 7 in Manchester and Salford, 4 in Portsmouth, 4 in Leeds, and 3 in West Hartlepool. The fatal cases of measles, which had declined in the three preceding weeks from 61 to 52, further fell last week to 48; the highest annual rates from this disease last week were 1·5 in West Bromwich, 1·6 in Swansea, and 3·0 in Hastings. The 38 deaths attributed to diarrhœa were fewer by two than those in the previous week. The 30 fatal cases of scarlet fever showed a decline of 6 from the number in the previous week, but caused proportional high rates in Burnley, Stockport, St. Helens, and Coventry. Only 14 deaths in the 76 towns last week were referred to "fever," a lower number than in any recent week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had declined in the 16 preceding weeks from 2819 to 1993, had further fallen to 1937 on Saturday last; 213 new cases of this disease were admitted to these hospitals last week, against 204 and 193 in the two preceding weeks. The Metropolitan Asylums Hospitals contained 2 small-pox cases on Saturday last. Of the 1607 deaths registered in London last week 392 were referred to pneumonia and other diseases of the respiratory system, against 285, 291, and 322 in the three preceding weeks; these 392 deaths were, however, 70 below the corrected average number in the corresponding week of the five years 1905–09. The causes of 49, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Newcastle-on-Tyne, Hull, Nottingham, Leicester, Salford, and in 45 other smaller towns; the 49 uncertified causes of death in the 76 towns last week included 11 in Liverpool, 7 in Birmingham, and 3 each in Manchester, Sheffield, and St. Helens.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 926 births and 744 deaths were registered during the week ending Feb. 5th. The annual rate of mortality in these towns, which had been equal to 16·7, 15·5, and 19·1 per 1000 in the three preceding weeks, further rose to 20·5 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns averaged 18·4 per 1000, and exceeded by 2·8 the mean rate during the same period in the 76 largest English towns. The annual death-rates last week in these eight Scotch towns ranged from 15·4 and 17·4 in Perth and Aberdeen, to 26·4 in Dundee and 29·8 in Greenock. The 744 deaths from all causes in the eight towns last week showed a further increase of 51 on the numbers returned in recent weeks, and included 100 which were referred to the principal epidemic diseases, against 77 and 99 in the two preceding weeks. These 100 deaths were equal to an annual rate of 2·8 per 1000; the mean death-rate from the same diseases in the 76 English towns last week did not exceed 1·1 per 1000. The 100 deaths from these epidemic diseases in the Scotch towns last week included 46 from measles, 16 from diarrhœa, 14 from diphtheria, 11 from scarlet fever, 9 from whooping-cough, and 4 from "fever," but not one from small-pox. The fatal cases of measles in the eight towns, which had been 37, 46, and 54 in the three preceding weeks, declined again last week to 46, and included 37 in Glasgow, 6 in Edinburgh, and 2 in Greenock. The 16 deaths attributed to diarrhœa were within one of the number in the previous week; 8 occurred in Glasgow, 4 in Edinburgh, and 3 in Dundee. The deaths referred to diphtheria, which had been 8 and 12 in the two previous weeks, further rose last week to 14, of which 8 were recorded in Glasgow, and 2 each in Edinburgh, Dundee, and Aberdeen. The 11 fatal cases of scarlet fever also showed an increase upon the numbers in recent weeks, and included 7 in Glasgow and 3 in Edinburgh. Of the 9 deaths from whooping-cough, 5 were recorded in Glasgow and 2 in Leith. The 4 deaths referred to "fever" corresponded with the number in each of the two preceding weeks; 3 were certified as enteric, including 2 in Glasgow, and 1 as cerebro-spinal meningitis in Edinburgh. The deaths in the eight towns last week referred to diseases of the respiratory system, which had been 101 and 123 in the two preceding weeks further rose last week to 150, and exceeded by 19 the number returned in the corresponding week of last year. The causes of 26, or 3·5 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,151,790 persons, 694 births and 552 deaths were registered during the week ending Feb. 5th. The mean annual rate of mortality in these towns, which had been equal to 19·1 and 21·1 per 1000 in the two preceding weeks, further rose to 25·0 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these Irish towns averaged 21·5 per 1000, whereas the mean rate during the same period did not exceed 15·6 in the 76 largest English towns and 18·4 in the eight principal Scotch towns. The annual death-rate last week was equal to 29·8 in Dublin, 22·0 in Belfast, 31·5 in Cork, 14·4 in Londonderry, 27·3 in Limerick, and 21·4 in Waterford; the mean annual death-rate last week in the 16 smallest of the Irish towns was equal to 21·0 per 1000. The 552 deaths from all causes in the 22 town districts last week showed a further increase of 85 upon the numbers returned in the two previous weeks, and included 34 which were referred to the principal epidemic diseases, against 29 and 30 in the two preceding weeks; these 34 deaths were equal to an annual rate of 1·5 per 1000; in the 76 English towns the mean rate from the same diseases last week was 1·1 per 1000, while in the eight Scotch towns it was equal to 2·8. The 34 deaths from these diseases in the Irish towns last week included 25 from whooping-cough, 7 from diarrhœa, and 2 from diphtheria, but not one from measles, scarlet fever, "fever," or small-pox. The fatal cases of whooping-cough, which had been 18 and 21 in the two preceding weeks, further rose to 25 last week, and included 19 in Belfast, 2 in Dublin, and 2 in Newtownards. Of the 7 deaths attributed to diarrhœa, 4 occurred in Dublin, 2 in Belfast, and 1 in Cork. Both the fatal cases of diphtheria were recorded in Dublin. The deaths in the 22 town districts referred to pneumonia and other diseases of the respiratory system, which had been 107 and 131 in the two preceding weeks, further rose to 140 last week. The causes of 32, or 5·8 per cent., of the deaths registered last week in the Irish towns were not certified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent., and in the eight principal Scotch towns it was equal to 3·4 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's Fleet:—Oswald Mills, Leslie Miles Morris, Alexander Kenneth Smith-Shand, Norman Howard Mummery, John Fullarton, William Norman Lyndon Cherry, and Thomas William Myles (dated Feb. 8th, 1910).

The following appointments are notified: Fleet-Surgeons: E. C. Cridland to the *Illustrious*, on recommissioning; J. Menary to the *Magnificent*, on recommissioning, and to the *Bulwark*, on becoming flagship. Staff-Surgeons: H. L. Norris, lent to Royal Naval College, Osborne; J. Martin to the *Magnificent*, on recommissioning, and to the *Bulwark* on becoming flagship; H. W. B. Shewell to the *Arrogant*; E. F. Ellis to the *Wildfire*, and G. M. Eastment to the *Pembroke*, additional, for disposal. Surgeons: W. Hutcheson to the *Redbreast*, additional, and on recommissioning; W. G. Edwards to the *Black Prince*; and G. C. Cross to the *Argyll*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated Jan. 28th, 1910): Edgar T. Inkson, V.C., Percy H. Collingwood, Charles J. O'Gorman, D.S.O., Robert S. H. Fuhr, D.S.O., Harold P. W. Barrow, and David Harvey.

Lieutenant-Colonel John R. Yourdi is placed on retired pay (dated Feb. 6th, 1910).

The undermentioned Lieutenants, from the seconded list, are restored to the establishment: Eustace M. Parsons-Smith (dated Jan. 30th, 1910); and William H. O'Riordan (dated Jan. 31st, 1910).

Captain John G. Berne retires, receiving a gratuity.

Surgeon-General W. W. Kenny, C.B., has arrived from South Africa and taken over his appointment as Principal Medical Officer, Northern Command. Lieutenant-Colonel A. R. Aldridge, from Simla, has been appointed Instructor, School of Army Sanitation, Aldershot. Major J. D. Ferguson, D.S.O., from Aldershot, is appointed a Recruiting Medical Officer, London District. Major C. Dalton, from Aden, is appointed Medical Inspector of Recruits, Irish Command (temporarily). Major B. J. Inniss, from Meerut, has been posted to the Eastern Command. Major C. B. Martin is appointed Registrar and Secretary to the Royal Victoria Hospital, Netley, vice Major O. L. Robinson. Major H. I. Pocock, from Kailana, is appointed to command the Station Hospital, Shahjehanpur. Captain W. B. Fry, who has been carrying out research work at the Royal Army Medical College at Millbank in connexion with the Sleeping Sickness Commission, is about to proceed to Khartoum.

INDIAN MEDICAL SERVICE.

Colonel R. D. Murray, Bengal, is permitted to retire from the service from March 29th next. Colonel W. A. Quayle, principal medical officer, Aden Brigade, is granted 60 days' privilege leave in India. Captain W. H. Dickinson has been appointed Professor of Chemistry at the Grant Medical College, vice Lieutenant-Colonel T. D. Collis Barry, retired. Lieutenant R. H. Bott has been appointed specialist in advanced operative surgery, 4th (Quetta) Division; Lieutenant V. B. Green-Armytage, specialist in midwifery and diseases of women and children, Burma Division, and Lieutenant T. D. Murison, specialist in mental diseases, Northern Army, India.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supplementary List.—George Ernest Shand to be Lieutenant (on probation) (dated Jan. 20th, 1910).

TERRITORIAL FORCE.

Royal Army Medical Corps.

For attachment to Units other than Medical Units.—Surgeon-Major John W. Nicholson, from the 5th Battalion, The Lincolnshire Regiment, to be Major, with precedence as from Jan. 28th, 1909 (dated Dec. 24th, 1909). Surgeon-Captain John M. Duncan, from the 5th Battalion, The Lincolnshire Regiment, to be Captain, with precedence as from July 4th, 1903 (dated Dec. 24th, 1909). Harold Linton Heslop, to be Lieutenant (dated Jan. 11th, 1910).

INDIAN MEDICAL SERVICE STUDY-LEAVE.

Regulations regarding the grant of study-leave to officers of the Indian Medical Service are published in the *Gazette of India* of Jan. 7th. The following are among the important rules. Extra furlough for the purpose of study may be granted to officers of the Indian Medical Service on the recommendation of the Director-General of the Indian Medical Service. The period of such study-leave will be calculated in the case of an officer under military-leave rules at the rate of one month for each year of pension service, and in the case of an officer under civil-leave rules at the rate of one month for each year of active service as defined in the Civil Service Regulations, up to a total in either case of 12 months in all during an officer's service. Study-leave may be taken at any time, but will not be granted more than twice in the course of an officer's service. This restriction does not apply to an officer who has part of his furlough converted into his study-leave under Rule 8. The minimum period of study which will render an officer eligible for study-leave will be two months.

THE TERRITORIAL FORCE NURSING SERVICE.

At a meeting of the Executive Committee of the Territorial Force Nursing Service, City and County of London Branches, held at the Mansion House recently, it was decided to invite H.R.H. the Princess Royal to become president of the association. The Duke of Fife is the Lord Lieutenant of the County of London and Her Royal Highness presented the prizes at the Territorial sports held at the Stadium last year. The Executive Committee includes amongst its members the Lady Mayoress, the Countess of Denbigh, the Hon. Mrs. Adam, the Hon. Mrs. Charles Tufton, Lady Dimsdale, Lady Ellis, Lady Barlow, Lady Truscott, Lady Mackinnon, Lady Beachcroft, and Mrs. Kinlock.

THE RED CROSS SOCIETY.

A City of London Branch of the Red Cross Society is about to be formed under the auspices of the Lady Mayoress. Sir Frederick Treves will explain the objects of the society at a meeting the date of which will shortly be announced.

A meeting was held at the Clifton Ladies' Club last week under the auspices of the Bristol Branch of the Red Cross Society. There was a good attendance to hear Sir James R. Andrew Clark, Bart., C.B., give an address on the *raison d'être* of the voluntary aid detachment, how to raise it, and what its object is.

INDIAN MEDICAL SERVICE EXAMINATION.

In our announcement of the result of the examination held in January for commissions in the Indian Medical Service the first two candidates were placed in the wrong order, Dr. E. G. Kennedy being credited with 100 less marks than he actually obtained. The first names should have read as follows:—

	Marks.
Edward Galwey Kennedy, M.B., B.Ch., B.A.O. R.U.I., Queen's College, Cork	3629
Robert Forrester Douglas MacGregor, M.B., Ch.B. Edin., Edinburgh University, Coombe Hall, Dublin, West London Hospital	3532

OSBORNE NAVAL COLLEGE.

The serious epidemic of influenza at this institution will probably lead to its temporary closing.

Correspondence.

"Audi alteram partem."

THE STATE REGISTRATION OF NURSES.

To the Editor of THE LANCET.

SIR,—So far as I remember Mr. Sydney Holland's speech at the meeting of the Cottage Benefit Nursing Association his main contention was that registration would not ensure the provision of only good nurses. Surely no one ever said that it would; but the important point to bear in mind is that our chief trouble is not with nurses who become unfit but with nurses who never have been fit. Now, registration will ensure the nurse having had a sufficient training, and having at the end of her training been able to pass a qualifying examination (as the scope and character of this examination has not yet been fixed Mr. Holland had no right to call it "absurdly easy"), of having been of good and suitable character at the time of registering, and it will, moreover, provide afterwards supervision and control. Mr. Holland said that under the Registration Bill a nurse could not be removed "unless convicted of a serious offence ..... she might become flighty or flirty or might drink. Fancy a woman going about hall-marked by the State who took drugs or was dotty." Now this is exactly what could not happen under the Bill, for by Clause 10 the nurses' council has power "to decide upon the suspension or removal from the register of the name of any trained nurse for any breach of the rules and regulations ..... or for conduct disgraceful in a professional respect."

The same arguments were brought forward when the registration of midwives was proposed, and one need only read the reports of the meetings of the Midwives Board to see how efficient the Act can be in the control of registered midwives. But how do matters stand now if a nurse is "flighty or flirty, drinks, takes drugs, or is dotty"? No one can correct or control her or stop her nursing. After much bitter experience the public may make work impossible for her in one place, but she can easily start in another until bitter experience and calamity again find her out. If at present a nurse well known to the doctor or the patient cannot be found, and this is not infrequently the case, one has to take a stranger more or less on trust, and she may have had three years' training in a good hospital, three months in a workhouse, or no technical training at all, may be of good or bad character, temperate or intemperate. State registration would not prevent the unregistered from practising as nurses, but the very fact of its existence would make the public realise that a uniform does not make a nurse and so make them more careful to inquire about her, for there would be no bar to further inquiries any more than there is now.

Reading Mr. Holland's speech one would think that the only necessary qualification for registration was the passing of an absurdly easy examination and a good character, but the speaker should have known that in the proposed scheme a certain definite period of training in a recognised institution is essential, and, moreover, that after registration the nurse will have to report herself every year. All the arguments that have been brought forward against this reform might equally well have been used in the case of medical men; examination does not make a physician, neither does registration ensure a continuance of his suitability, his character, or his efficiency, but it does place him under the control of a powerful disciplinary body, the General Medical Council.

If, in the public interest, this is necessary in the case of medical men, surely it is now required for nurses, as, considering the importance nowadays of their work, both to doctor and to patient, it is essential that they should possess without doubt certain technical knowledge and skill. So far I have considered the question only from the public point of view, but looked at from the nurses' side there is an important point to be remembered—at present the well-trained and qualified nurse has, except personal experience, no means of making herself distinct from the untrained and unqualified pretender, the charlatan, and the adventuress.

I am, Sir, yours faithfully,

Bradford-on-Avon, Feb. 1st, 1910. CHAS. E. S. FLEMMING.

CLAMPS IN GASTRO-ENTEROSTOMY.

To the Editor of THE LANCET.

SIR,—I am glad that Mr. Sinclair White has raised the question of the use of clamps in gastro-enterostomy. I have never used them myself, but I believe that their use is almost universal. I consider their use is objectionable in two ways: first, on account of the risk of subsequent hæmorrhage; and secondly, because any application of a clamp, however temporary it may be, must damage the vitality of the stomach and jejunal walls at the point where the anastomosis is to take place.

The supposed uses of clamps are (1) to prevent the escape of gastric contents; (2) to facilitate the holding of the parts together while suturing; and (3) to prevent hæmorrhage. Gastric contents are not infective and only cause trouble if they are allowed to enter the peritoneal cavity and are retained in it; there is no danger of this in a gastro-enterostomy, without clamps, provided the abdominal opening is small, because it is completely plugged with the stomach, transverse colon, and jejunum, which have been brought out of the wound; all that can happen is that gastric contents flow over the stomach and jejunum, which produces no trouble if the parts are well washed with normal saline solution before replacing them. I have not found that the healing of the abdominal wound has been interfered with. To holds the parts in apposition while suturing, in my last 150 cases I have used guides which are passed as Lembert's stitches; these guides when held firmly apart produce a ridge which facilitates the passage of the Lembert suture, and enables me to insert a continuous suture very tightly without causing contraction of the opening.

With regard to hæmorrhage, I have had little trouble. No point requires ligature on the duodenum, and only three or four vessels in the stomach will require to be ligatured. The short time occupied in ligaturing these vessels is amply repaid by the knowledge that reactionary bleeding will not occur. I am sure that Mr. R. W. Murray need have no hesitation in dispensing with the use of clamps, and if he once gives them up, I do not think that he will ever return to their use.

I am, Sir, yours faithfully,

London, W., Feb. 7th, 1910. L. A. BIDWELL.

To the Editor of THE LANCET.

SIR,—We must all be much obliged to Mr. Sinclair White for calling attention to a grave source of danger in this operation. It would be interesting if he would tell us what clamps were used in the case he has recorded. Roosevelt's clamp, for instance, has always appeared to me a dangerously powerful weapon for the purpose for which it was designed. I have had the rachet of a pair of Carwardine's twin clamps lengthened, so as to use them with very light pressure, and Doyen's light forceps would serve the same object. Thus I have avoided using clamps with a view to hæmostasis, although Mr. Moynihan[1] advises tightening the clamps if there be oozing.

Time is often of great value, and if by placing clamps lightly time can be saved without the risk of their acting as tourniquets they may still prove valuable. I shall, however, certainly take Mr. Sinclair White's advice the next time I perform this operation and do it without using clamps.

I am, Sir, yours faithfully,

Exeter, Feb. 7th, 1910. RUSSELL COOMBE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 22nd Mr. Sinclair White relates the story of a man who died from gastric hæmorrhage following gastro-enterostomy, and in your current issue a similar accident, though with a more happy ending, is recorded by Mr. R. W. Murray, who at the same time invites others to publish their experiences of this complication. Both surgeons attribute the accident to the use of clamps, and this certainly seems to be the case in the two instances recorded. Mr. Sinclair White advocates the ligation of bleeding vessels in the submucosa before suturing, and Mr. Murray agrees with him in favouring the operation without clamps so that all spouting vessels may be evident. Mr. Murray does not state on which lip of the stoma he found the bleeding points, but as a rule it is the inferior lip of the incision in the stomach (that nearer the greater curvature) which bleeds, for the cut vessels are those running upwards from the gastro-epiploic artery. In performing posterior gastro-enterostomy this lip is sutured last. If clamps are used and the return half of the inner or hæmostatic suture is passed so as to *evert* the mucous edges (as recommended by Mr. Moynihan) any unsecured vessels at once become apparent on releasing the clamps, and may be controlled with an extra stitch before completing the serous suture.

This eversion of the vascular cut edge of the stomach is, I think, an important difference between the clamp and no-clamp operations; for those who prefer the latter Mr. Rutherford Morison has adapted a useful stitch designed to *invert* the edges.[1] In two cases I have employed fine catgut for this inner suture, and my experience of post-operative hæmorrhage is limited to the second of these, a gentleman on whom I performed gastro-enterostomy for duodenal ulcer nearly two years ago. On the day following operation about a pint of blood was vomited and the next day a quantity of altered blood was passed in the stools. This I attributed to the rapid absorption of the catgut and have since reverted to the use of thread without meeting with a return of the mishap.

I have no personal experience of the operation without clamps, nor have I had the privilege of seeing the work of your correspondents, but from what I have observed in Continental clinics it has seemed to me that the operation without clamps is less simple and clean—even in the hands of dexterous surgeons—than the operation with their aid. I do not pretend to say that one method of operation is better than another, but I do believe that the use of clamps *need* not be followed by this grave complication.

I am, Sir, yours faithfully,

Hull, Feb. 6th, 1910. HAROLD UPCOTT.

[1] Abdominal Operations, second edition, 1906, p. 179.

THE ACTIONS OF PITUITARY EXTRACTS.

To the Editor of THE LANCET.

SIR,—Your leading article in your issue of Feb. 5th on the Action of Pituitary Extracts based on Dr. A. Delille's monograph is sure to be much appreciated at the present time. I would like, however, to make some demur to the somewhat surprising recommendation of Dr. Delille that an extract of the *whole* gland should be used. This advice is quite contrary to what would be expected from a consideration of all published reports of recent laboratory work that have come under my notice, and experiments I have been making myself during the past few weeks lead me strongly to the conclusion that the course suggested by him is not the one best calculated to bring out the fullest information as to the clinical value—whatever it may prove to be—of this interesting body. It seems to me most desirable that physicians or surgeons wishing to test the value of pituitary extracts should not confuse results by using the whole gland, but should deliberately test, in suitable cases, the effects produced by the use of extracts of either the anterior or the posterior lobe, so that the results obtained may be accurately ascribed to whichever part of the pituitary is responsible; if subsequently it should be found that increased benefit followed the administration of the whole gland, then, of course, it should be used. My own experiments have been quite simple and for the moment have been confined mainly to noting the effect produced on the blood pressure of anæsthetised rabbits with cut vagi. In order to avoid error I have personally removed the pituitary body from the heads of sheep and oxen and then carefully and cleanly separated the posterior from the anterior lobe and had 1 per cent. sterile extracts made from each. One cubic centimetre of the extract from the anterior lobe, injected intravenously, invariably gave either no result or a slight fall of blood pressure, whereas the effect produced by a corresponding dose of the posterior lobe has always been most notable—a prolonged and striking rise of blood pressure invariably following the injection. I believe that the results I have indicated agree with what all experimenters have found to be the case, and, if that be so, it does seem regrettable that medical men should—for not very

[1] Brit. Med. Jour., July 10th, 1909, p. 70.

strong reasons—be advised to use the whole gland rather than attempt to get more precise scientific knowledge of the subject by using one or the other lobe in order to determine the clinical effects that may be expected from the exhibition of either. I am, Sir, yours faithfully,

WILLIAM MARTIN, M.D. Durh.

Newcastle-upon-Tyne, Feb. 5th, 1910.

LATE TRAUMATIC SUBDURAL HÆMORRHAGE OR TRAUMATIC LATE APOPLEXY.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 6th, 1909, I was extremely interested in the two articles that appeared under the above heading, as the case (the history of which is given below) was treated in the hospital under my charge, and the assailant had received a sentence of either two or three years' rigorous imprisonment for the first offence of causing grievous hurt. As you will see from the notes, five months after apparent recovery the patient was readmitted to hospital and died there; and according to the law in India the whole case was re-tried, and my evidence in the Lower Court recorded before your publication of the above date reached me. Previous to giving my evidence I searched all available literature for something bearing on the case but with a total want of success. The only thing I could find recorded was that somewhat similar symptoms occurred in certain slow-growing brain tumours, but even in these cases the pathology was obscure. Fortunately, I had the advantage of reading the articles in THE LANCET of Nov. 6th, 1909, before giving evidence before the High Court. The following are the notes of the case:—

Ah Yaik, Chinaman, well-nourished, strong man, age 24, admitted Dec. 22nd, 1908. Said to have been struck on head with a heavy stick. A contused wound on front of head 1" × ¼". An extensive contusion on right side of head, in temporal region, about 4" in diameter. Patient semi-unconscious, with slow, irregular pulse of 45 per minute; no paralysis; pupils equal. Trephined and found depressed fracture. Bone elevated and one loose piece removed. There was rupture of the middle meningeal artery and the dura mater was badly torn and the brain injured. Clot and brain matter were removed and artery tied. Later on a small hernia occurred, but eventually the protruding brain matter granulated up, and man left hospital cured on 2/2/09. As a matter of fact, though the wound was healed, it was only just so, and patient should have remained much longer in hospital, but it was impossible to keep him. To all appearance he was quite well when he left and had no physical signs of ill-health.

On 8/8/09 he was readmitted complaining of inability to walk, the history given being that since leaving hospital he had up to 10 days prior to readmission been in good health and carrying on his occupation as a carpenter. He was fully conscious and spoke intelligently about his condition, his only complaint being that he could neither stand nor walk. Sitting on the side of the bed he could flex thighs on body, but could not with the thighs flexed extend the legs; both knee-jerks were absent; there was no ankle clonus and Babinski's reflex was not present. He could move his legs fairly freely in bed. His hand grips were weak, the right more so than the left. Muscles flabby, but no visible signs of atrophy; electrical reactions not tested. Appearance a little dull; hands and feet looked puffy, but there was no œdema. Pupils normal. Sensation to pain dulled and delayed, and below the knees sense of touch appeared to be absent, but it was difficult to make sure. His symptoms rapidly increased in severity and he began to complain of pins and needles in legs and feet. This latter form of pain became very severe. The calf muscles became tender to pressure, but no rigidity occurred. Up to 25/8/09 he was fairly bright, but on that morning he looked stupid and heavy, and on being asked to sit up he did so, but allowed his chin to sink on to his breast. On the evening of the same day I was sent for, as patient had suddenly collapsed. On arrival at hospital he had been brought round with stimulants, &c., but was looking very badly. The skin over the old trephine hole was being forced outwards by pressure from within and was pulsating violently, and appeared almost bursting from the tension. He was put on table and the old flap of skin turned down once more. The old brain scar was adherent to its under surface but nothing else was found. A sinus forceps was passed in one or two directions for some distance into brain without result, so a dressing was applied and patient put back to bed. He recovered full consciousness but died the same night, 9.50 P.M., complaining for some time before of tightness in the chest over the heart region.

A post-mortem examination was made, at which the dura mater was adherent by its edges round the margin of trephine hole, the brain in this situation being uncovered by dura mater. On opening the latter membrane the vessels of the brain were highly engorged and blood flowed in a stream over the right side of the brain, and the same condition was present on the left side. It appeared to be due to free venous oozing; longitudinal sinus was empty. The vessels of base were also engorged, as were those of the cerebellum but to lesser extent. The whole of the base of skull (inside dura mater) was full of dark liquid blood. Behind the junction of the fissures of Rolando and Sylvius the brain was lacerated to a depth of about ½". The fissure of Rolando was markedly open as compared with the opposite side.

Personally, I have never before met with such a case, and was extremely worried as to what evidence I could give in court. The history of ten days' illness before readmission cannot be absolutely relied on, as such a patient would only come to hospital when incapacitated from carrying on his daily work; but even allowing something for this, the lapse of eight months seems to be an almost record time for symptoms resulting in death to have followed the original injury.

Since writing the above another case has come to hospital with an almost similar history of being beaten with a heavy stick. He complained of dimness of sight, fever, giddiness, had four slight abrasions on right side of face, and two abrasions of left side of neck, all very trifling, and the assault took place three days before admission. While in hospital his chief symptom was persistent headache, but he appeared to be going on well, until suddenly and without warning on the fifth night after admission he got a convulsive seizure with twitching and convulsions in all his limbs, and died within three hours. On post-mortem examination there was no injury to the bone, but the brain was in the same condition as the previous case—viz., acute inflammatory œdema. There was evidence of subarachnoid hæmorrhage, and a clot was found in the third ventricle. I have not yet been called to give evidence in this case. Both the above cases appear to be on a par with the cases given in your issue of Nov. 6th, 1909, and both from a surgical and medico-legal point of view appear to be of extreme interest.

I am, Sir, yours faithfully,

Bassein, Burma, Dec. 14th, 1909. P. DEE, Major, I.M.S.

ENTERIC FEVER IN INFANCY.

To the Editor of THE LANCET.

SIR,—The case recorded by Dr. Alice Oberdorfer in THE LANCET of Jan. 29th affords ample material for thoughtful study, and in connexion with it the following briet notes may be of interest.

A female child, aged 11 months, came under medical treatment for a somewhat indefinite illness, the exact significance of which was not apparent. She had been out of sorts for ten days or so and was disinclined for food. The bowels tended to be loose, and occasionally the alvine discharges were markedly diarrhœic. On coming under medical supervision it was found that the child had a temperature which varied between 101° and 104° F. After ten days' treatment no progress had been made, and as the mother was much worried by the child's fretfulness at night she was sent into hospital for observation. Very little could be made out. The temperature was high, and there was generally a difference of two or three degrees between the morning and evening temperatures. There was no diarrhœa; indeed, the bowels tended to be constipated. The child was very cross and fretful and cried a good deal. It was difficult to say whether or not she was suffering pain, but the impression one got was that the cry was due to temper, not to pain. The abdomen was slightly tympanitic on percussion. Palpation was most unsatisfactory, as the child always cried when this was attempted, with the result that the abdominal muscles were more or less rigid. After making allowance for this, it seemed probable that the abdomen did not possess that elasticity and "doughy" feel met with in the healthy child. The child took all the food that was given to her and was not sick. There was no rash on the abdomen or elsewhere. The heart, lungs, and urinary system were healthy. The child had thus merely a high temperature, the cause of which was obscure. After having observed the case for two or three days a specimen of blood was sent for the Widal test which was reported positive. The result occasioned some surprise and so a second specimen was sent, but the reaction was again reported as positive. I made careful inquiries as to the nature of the reaction and I was informed that the reaction was neither doubtful nor delayed, but that "clumping" took place at once and all the evidence pointed to a typical positive reaction.

We are thus confronted with the problem whether a diagnosis of typhoid fever should be made on the evidence of Widal's test. Clinically the various points were not such as to justify a diagnosis of typhoid fever, and even with a positive Widal reaction the clinical evidence is very weak. It is generally admitted that typhoid fever, although very rarely met with in infants under one year of age, is not unknown. It is also a well-known fact that in infants and young

children typhoid fever never runs the typical course which one associates with adult life. In view of the above case one is inclined to make the suggestion that in children who run a temperature, any definite cause for which cannot be found, and who suffer from vague abdominal symptoms, the Widal test should be carried out. A provisional diagnosis might thus be made, and by adopting suitable precautions secondary cases of typhoid fever might be prevented. So far as I know there were no cases of enteric fever that could be traced as being secondary to this possible case of enteric fever in an infant. This does not, however, prove that it could not have been enteric fever.

I am, Sir, yours faithfully,

Edinburgh, Jan. 31st, 1910. J. ALLAN, M.D. Edin., D.P.H.

THE FLOODS IN PARIS.

(FROM OUR OWN CORRESPONDENT.)

THE Academy of Medicine did not meet last week owing to the interruption of the electric light and the heating arrangements, but the consulting committee of hygiene of the department of the Seine has held a meeting. The municipal laboratory has been consulted, and the Prefect of the Seine has issued a notice, which has been placarded in all parts of the city, ordaining that as the floods recede from the inundated premises the proprietors shall within 24 hours of the subsidence of the water take measures to bring their premises into a sanitary state and to prevent infection. The owners of house property will have to satisfy the architect of the streets department of the arrondissement as to the execution of the work, and must carry out all the instructions which they may receive with respect to the sanitary state and the structural security of the premises. The prefect of police, who by the law of 1902 has charge of the hygiene of the *banlieue*, has made a similar order for the disinfection of the other inundated localities of the department of the Seine. For several days water-carts filled with disinfectants have arrived on the scene accompanied by a staff of workmen. The men and the materials are immediately sent to various points on the margin of the area fouled by the floods, and the streets have been thoroughly sprinkled with disinfectants, in accordance with the information which I gave your readers last week. The architect of the streets department is undertaking the cleansing and disinfection of the courtyards and ground-floors of houses. These proceedings are received by the people with hearty goodwill. The disinfectants are applied by hand sprinklers as well as by water-carts.

(FROM A SPECIAL CORRESPONDENT.)

FROM a financial point of view the cost to Paris of the recent floods will be enormous, but they have elicited a manifestation of what has been termed "obsidional solidarity" which proves once more that in the presence of public calamity all private dissensions can be forgotten, and which has shown the Parisians at their very best. From a medical point of view the flood would seem to have caused great inconvenience but relatively little harm. It became necessary, as you have heard, to evacuate the Boucicaut Hospital, which was entirely swamped, and the patients were transferred to Laennec, Necker, and elsewhere. From the Ivry asylum for the aged the 2000 occupants were removed to Bicêtre and the Salpêtrière. Those of Alfortville and Gennevilliers were also transferred to other establishments. The Charité in the Rue Jacob, which, like many of the adjoining streets, and particularly the Rue Visconti, was changed into a canal, had its basements flooded, but no further damage was done. At the Salpêtrière the laundry, which supplies also the St. Louis and Lariboisière, and which turns out daily 25,000 kilogrammes of washing, was entirely disorganised. The Hôtel-Dieu being on the Ile St. Louis was naturally greatly exposed, and the director, M. Coq, very courteously took me round and related what had occurred in his hospital. Here, again, the water came from underneath, and in the night of the 27th the kitchens and cellars were swamped, a gang of *sauveteurs* being hastily requisitioned to remove material and stores. A provisional kitchen still in use at the time of my visit had been erected in the upper court under a tent. In the lower one, which was flooded, the service was effected by boats. As elsewhere, the steam-heating apparatus being under water, it became necessary to adopt other means for warming the hospital, and 25 stoves were purchased immediately for the wards. At St. Antoine the same trouble occurred as at the Hôtel-Dieu about heating, and 3000 francs were spent upon stoves. Beyond these slight inconveniences the patients did not suffer, their only privation being a shortage of milk, of which the supply from the flooded country was reduced to about a quarter of the usual quantity. In prevision of possible illness 1000 extra beds were prepared for the reception of patients in the Paris hospitals, but so far there has been no increase over the ordinary morbidity. Those rescued from the flooded districts have only been received in the hospitals when really ill, and there has been no necessity for transforming them into refuges. The charity and philanthropy of all classes have been remarkable; not only has money been contributed unstintingly, but sympathy, kindness, and hospitality have been universal.

At the Bureau d'Hygiène and Préfecture de Police further details have been obtained concerning the sanitary outlook. A great many exaggerated statements have been made in the press about the main drainage, which was said to have been burst open in several places and to have discharged pestilential contents in the soil, basements, and cellars, and in this way to have infected the water-supply. According to my information, only one rupture has occurred. The main drain, it may be said, is an arched tunnel, in the upper part of which run the gas and water pipes, receiving in its course the discharge pipes from the houses, and the rainwater from the streets. After the flood had attained a certain height, the pressure from the inside of the drain, full to overflowing, prevented complete discharge of household sewage, which in some cases gave rise to offensive smells but nothing further. The integrity of the drains has been shown by the fact that no interference has taken place in Paris itself with the gas- or water-supply. M. Bienvenu affirms that in the one exception alluded to, that of the Place du Havre, the rupture of the main drain rather than infiltration was the immediate cause of the inundation. This was not caused, it is said, by any fault in the drains, but by their weakening in consequence of the adjacent borings of the Nord-Sud-Métropolitain. The flush water of the Bièvre, which made its entrance at the Boulevard St. Germain, was conveyed by this channel under the Seine to the central station in the vicinity of the Gare St. Lazare, where, breaking through the recent masonry, it flooded the other tunnels.

Concerning the probability of an epidemic, which is anticipated by some alarmists, it is the opinion of the sanitary authorities that an outbreak of any grave sort is out of the question. Concerning typhoid fever, Paris, it should be said, is supplied with two kinds of water, the first drinkable from the Vanne, the Dhuys, and other springs; the second taken from the Seine, and always more or less contaminated bacterially, which is only substituted for the former in times of extreme drought, when notice is always given to consumers. It is admitted that the overflow of the Seine may possibly have contaminated the purer supply, but this risk can be attenuated by boiling the water, and the importance of this precaution is fully recognised by the population. Besides this prophylactic measure the completest disinfection is being carried out of all buildings that have been submerged, and the streets are now being treated by cresyl, chloride of lime, or carbolic acid wherever disinfection is necessary. With commendable despatch the work of preventive sanitation began as the water began to drop. Every spot that has been touched by the flood will be overhauled completely, and whatever money is required will be spent for this purpose.

With the exception of interference with public services not yet entirely reorganised, such as the Metropolitan Railway, electric lighting, the telephone, and of course the river traffic, Paris is rapidly recovering its usual aspect. The Place du Havre, so recently a swamp, is guarded by the military while I write, and what with the total cessation of traffic and business, the yawning chasms in the road, the absence of light in the evening, the approach to the Gare St. Lazare presented a truly sinister picture to my eye. The surface water had disappeared, but the ground was still saturated with damp and the air was chilly with

moisture: "It reminds one," said a man who was watching the picket preparing their "*popote*," "of the siege," and this was exactly the impression that it gave. This impression was heightened by the open-air kitchens in improvised *baraques* and tents, in the vicinity of which large crowds of hungry applicants waited their turn under the eye of the police. It has been noted that the temper and psychology of the population have all along been excellent, the predominant note having been resigned cheerfulness. There has been no serious shortage of food, and although some fear was felt at the height of the flood, any distress or hardship in the inundated districts has been due to the difficulty of revictualling those who refused obstinately to leave their home. It was only natural that the criminal classes should seek to take advantage of the situation and attempt to pillage deserted tenements, but thanks to the sailors, who are universal favourites, and to the vigilance of the police, the Apaches have not been particularly successful. When caught, moreover, they have been shot, hanged, drowned, with the alacrity of Western America.

As epilogue to the national disaster, numerous schemes for the prevention of its recurrence are on foot. Paris, the reader may be reminded, is built on the convexity of a loop of the Seine, and the recent subsidences in its honeycombed soil, even before the inundations, have shown the danger of future infiltrations. One of the remedies suggested is the construction of an underground canal to follow the chord of the arc of the river. If this were done, exceptional risings of the Seine at Paris would, it is said, be averted, the irrigation of the land along the watercourse would greatly increase its fertility, and the cost of the work once for all would be less than that of the recent catastrophe. It has also been proposed (but this is an old idea) to make an open canal, and other plans more or less Utopian, but which will have no immediate interest, will no doubt be suggested.

The practical conclusion from a medical point of view is, however, that there is little danger of an epidemic. I repeat the deliberate opinion of our sanitarians in saying this, upon which it follows that foreigners can come to Paris as usual without risk.

Paris, Feb. 3rd.

*** We hear that owing to a renewed rising of the river, and consequent re-flooding of certain districts, the work of systematic disinfection has been necessarily suspended in places.—ED. L.

THE DRAINAGE OF ALEXANDRIA.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE scheme for the thorough draining of Alexandria has now been adopted by the Municipal Commission of that town and accepted by the Egyptian Government. It is the work of Mr. D. E. Lloyd-Davies, M.Inst.C.E., chief engineer of the municipality of Alexandria, and it required nearly two years to prepare. I venture to express an opinion on so complex and important a scheme without studying the details on the spot, because the author has very courteously sent me elaborate and full reports of his proposals, accompanied by estimates, maps, and charts. From these documents I can describe, if I cannot criticise, his plans.

A drainage scheme is not merely a matter of hydraulics and of engineering. The sociology of the locality, as well as its topography, has to be studied. We must know a great deal about the habits and customs of the people before a wise decision can be taken in regard to the most practical system of drainage. In Egypt this phase of the problem is particularly difficult, because there are not only so many races and peoples living there, but, under the Capitulations, these people are governed by different laws and can only be prosecuted through their respective Consulates.[1] How far this somewhat chaotic state of affairs is modified by the fact that—unlike, for instance, Cairo—the great port of Alexandria has a municipality would be a very interesting subject of study. In Egypt some towns are governed by an elected municipality, while for other towns the local authority is appointed by the central government. This, then, is a good opportunity of ascertaining from actual practice which of the two systems gives the best results. Obviously the successful application of a system of drainage depends on the character and capacity of the local authority that has to attend daily to the details of its application. To judge such questions it is necessary to be on the spot, and to be there for some considerable time. But the character and habits of the population constitute an equally important factor, and we have at Alexandria a high-class and a low-class European residential population belonging to various nationalities. Some of these Europeans are able to appreciate the advantages of good sanitation and others are utterly ignorant and indifferent. Then there is the native Egyptian population, and it seemed to me they could be more easily managed, because they are a very docile people and the whole of their religious education teaches the most scrupulous personal cleanliness. Nevertheless, when I was in Cairo fears were expressed to me by several Europeans that the native Egyptians would not make the proper use of sanitary accommodation if the houses in the native quarters were connected with public sewers. Mr. Lloyd-Davies in his report confirms my view that such fears were ungrounded, and this, not as a matter of opinion, but as the result of practical experience. In describing his drainage scheme he says:—

> There appears to be a general idea that the house connexions—that is, the drain conveying the sewage from the house to the sewer in the street—should be of a different design in Egypt from that generally adopted for Europe. I have now had over two years' experience with connexions in this country, and during that time some 477 connexions have been made to the existing sewerage system, of which 75 per cent. are to native households. Most of these have been constructed on European lines, and I have received no complaints as to the way they work. In fact, the Egyptian house drains ought to work even better than the European, for the reason that the natives observe customs of cleanliness each day which do not exist everywhere in Europe, and they prefer for toilet purposes to use water when it is at their disposal rather than any other method.

This valuable experience has been acquired at Alexandria because, though there is no general system of drainage for the entire town, some sewers have been built from time to time. Several of these sewers are only fit for surface drainage or rain water; nevertheless, a certain number of private houses were connected with them. Thus the experience mentioned above has been acquired. Now it is proposed to apply in the low-lying districts the separate system. The rain water will be drained off to the nearest natural outfall by large sewers. The sewage proper will flow from the houses into small drain-pipes and reach, by gravitation, the nearest pump. Nine such pumps will be placed in the lowest-lying centres, and from these points the sewage will be raised to a higher level and into an ordinary gravitation sewer. The motive power for the pumps will be electricity, and the fuel employed crude petroleum. As Egypt is nearer to the oil than to the coal-fields, petroleum is considered the cheapest fuel. The greater part of the town, however, can be drained by gravitation, and here no pumping will be necessary. Consequently, the separate system will not be applied in these districts. Rain, waste, and sewage water will all descend into the same sewers, and flow together to the general outfall, relieved only by a few storm overflows.

In planning these sewers many complications arise. First, there is the fact that in some parts of Alexandria the population does not exceed 25 persons per hectare, while in other neighbourhoods it amounts to 758 persons per hectare. Then it does not suffice to provide for the actual population, but allowance must be made for the probable increase. Again, in providing for the rainfall it is not the amount of rain per day but the maximum storm downfall occurring in the space of only a few minutes which causes the greatest difficulty. Nor is this all: of even greater importance is the nature of the ground which receives the rain. If it falls on a roof, on asphalt, or any other sort of watertight surface, then the entire volume of the water will at once flow into the sewer, which must be large enough to hold it. But if the ground is for the most part utilised as gardens surrounding villas, then the water will sink into the earth and only a small portion will reach the sewer. In regard to this problem, Mr. Lloyd-Davies made some experiments at Birmingham. There he found that in a quarter consisting of block-buildings with paved courtyards and streets, 90 per cent. of the rain that fell reached the sewer. In a suburban district partially built upon, and where the houses were surrounded by gardens, only 17 per cent. of the rain found its way to the sewers. If sewers are laid on this latter basis, then, when building operations extend in the suburbs, they

[1] THE LANCET, June 19th, 1909, p. 1784.

will be no longer big enough. On the other hand, if in view of an increase of population the sewers are made too large, then they do not receive enough water to clear them out, and a sewer that is not self-cleansing soon becomes a nuisance. Experiments of this sort were made at Alexandria and they showed that the amount of rain reaching the sewers varied from 30 to 90 per cent. according to the permeability of the ground on which it fell. It was only after these experiments had been concluded, the nature of the rainfall ascertained, and all the levels carefully noted, that the size of the sewers could be determined. So far as possible the tendency has been to adopt the smallest practical size, for the double reason that the smaller the sewer the cheaper the sewer and the more easy it is to make it self-cleansing.

Perhaps the most difficult of all problems was to find a suitable outfall for the sewage. There is at Alexandria no desert near at hand, as there is in the case of Cairo, where no one lives and where experiments in sewage farms can be made without fear of creating a nuisance. On the other hand, there is the sea, but it is an almost tideless sea, and there was good reason to fear that the sewage would cling to the shore, spoil the bathing, and corrupt the atmosphere. Experiments showed that from the promontory of Selsileh corks and other objects used as tests were thrown up on the bathing place at Chatby and Ibrahimieh. Therefore it was necessary to go to the end of the promontory that reaches the farthest out into the sea, and bring the main collector down to the shore between the forts of Kaied Bey, the ancient Pharos, and El Adda. Even this was not safe, but fortunately it was found that by going out into the sea about a quarter of a mile deep water was reached, and here there were more flow and movement. In these deeper waters it is thought the sewage will be sufficiently diluted to be purified. Here the slight tide determines a current that runs some two miles eastwards and then backwards in a western direction towards the open sea. Tidal movement, of course, is calculated to assist the oxidation of the organic matters besides diluting the sewage. By carrying the sewer outfall 800 metres out to sea the deepest part of the submarine valley would be reached. Here the sewage before it floats up to the surface must travel upwards 19 metres, and it is calculated that this would dilute the sewage by 16 times its volume. Before it could reach the nearest shallows near the shore it would undergo a further dilution of from five to ten times its volume. Finally, if it should prove in practice that these theories in regard to purification by dilution with the sea water do not give the good results anticipated, it would be possible to treat the sewage before letting it flow into the Mediterranean. Between the forts Kaied Bey and Adda, where the main collector reaches the sea, the water is so shallow that it would be an easy matter to reclaim some of the land. Here then, and without disturbing any existing property, a large site just by the outfall could be created, where filtering beds or any other method of purification could be applied to the crude sewage before it is allowed to mix with the sea water.

Thus we are now promised that Alexandria as well as Cairo is to have a complete system of drainage. For some 15 to 20 years projects have been brought forward, and there has been a great deal of talk. Now at last it seems as if the people of Alexandria are about to pass from words to action. Incalculable benefit will result. Alexandria has a very high death-rate, and all experience points to the sure result of good drainage. This invariably means a reduction in the sick-rate and in the death-rate, so that the cost is amply refunded by the improved vitality of the population. It is to be hoped that no further time will be lost, but that the scheme now accepted will at once be applied.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Health of Liverpool: Death-rate Comparisons; Three Cases of Small-pox.

THE mortality in Liverpool last week was 18·2 per 1000, against 19·3 per 1000 for the corresponding period of last year. There were 805 cases of infectious disease in the city hospitals, including 3 cases of small-pox, 566 of scarlatina, 20 of typhoid fever, 21 of measles, and 39 of diphtheria. The health statistics for the city during 1909 are very satisfactory. The death-rate for 1909 of 18·3 per 1000 was slightly below that of 1908, and compares very favourably with that of 24·8 per 1000 in 1895, the first year of "Greater Liverpool." If the rate of 1895 had prevailed last year 4900 more persons would have died. The death-rates for phthisis and for infectious diseases were the lowest on record.

Liverpool Royal Infirmary.

The annual meeting of the trustees was held in the board room of the infirmary on Feb. 2nd under the presidency of Sir William H. Tate, Bart. Mr. Ralph Brocklebank, the chairman of the general committee, said the effect of the political situation had been looked upon with some apprehension. Happily, so far, their means for maintenance had suffered in no material way. Notwithstanding increased demands upon all for national purposes he was confident that those who could afford it would continue to maintain the voluntary system, and so avoid the misfortune of the hospitals coming on the rates. At the same time help towards a building on the part of the municipalities seemed legitimate, and the committee was looking forward to a contribution of £5000 from the corporation at no distant date. Alluding to the new out-patient department, Mr. Brocklebank said that everything had been done to make the building as perfect as possible and to ensure economical working. Touching on the ex-Lord Mayor's scheme for a council of voluntary aid to prevent imposition and overlapping, he thought it was a step in the right direction calculated to give increased confidence to the public, while financially and in management each institution would maintain its independence. Mr. Brocklebank paid a warm tribute to the medical and surgical staff. The nursing staff had increased from 83 in 1899 to 98 last year, though the number of patients had remained the same; that showed the greater attention which was now being given to each patient. Thanks were also due to the permanent officials who so loyally helped the committee for the general welfare. Mr. Brocklebank proposed a vote of thanks to Sir William Tate for his services during the year as president and for his handsome donation of £500, remarking that they were grateful to him for many benefactions. The treasurer, in seconding, said that Sir William Tate had also contributed 1000 guineas towards the out-patient department building fund. Sir William Tate responded, and moved the election of the Earl of Sefton as President for the ensuing year. Mr. George Warren seconded and the resolution was carried with acclamation.

Crippled Children of Liverpool: Medical and Surgical Relief.

The valuable operations conducted in Liverpool by the Invalid Children's Association attracted to the Town-hall a numerous company of ladies and gentlemen at the second annual meeting of the association. The Lord Mayor presided and proposed the adoption of the report and statement of accounts. His lordship spoke of the need for such an organisation as the Invalid Children's Association, and said that as a member of the city council he had had some experience of its work. The education committee gave instruction in the special schools to children who were physically or mentally defective, and they also fed them. They could only do that, however, whilst the children were of school age, and the law would not allow them to spend any more public money upon them. The committee had found that these children required more care than they themselves could give, and it was here that the work of the association came in. He strongly commended so noble a charity to the sympathetic support of the Liverpool public. During the year 1909 532 new children had been reported to the association, making a total of 1196 now claiming and receiving care. The association spared no pains to secure thorough and effective treatment for each child brought under its care, at the same time stimulating the parents to coöperate, so that the relief granted to the child might in no wise tend to undermine the family independence. During the last year 750 cases had been dealt with by the case committee, 210 children had been supplied with surgical apparatus, 104 spinal carriages had been lent out, while 246 children had been sent away for periods varying from 1 to 12 months, according to medical advice. Of these 170 had been sent to the West Kirby Convalescent Home, the remainder to the Children's Rest, the Children's Country Hospital at Heswall, the Freshfield Sanatorium for Children, Blundellsands Cottage Home for Children, the Eaton House

Convalescent Home, and boarding-out cottages at West Kirby. The Bishop of Liverpool, Mr. J. G. Legge, the director of education in Liverpool, and others warmly eulogised the work which the association is doing to alleviate suffering among children in Liverpool.

Liverpool School of Tropical Medicine.

The secretary of the school has received a communication from the Compagnie des Chemins de Fer du Congo Superieur aux Grands Lacs Africains at Brussels that their council of administration, desiring to coöperate with the most useful work which the School of Medicine is carrying on, has decided to allot to it a new subsidy of 5000 francs, which was enclosed in a cheque.

Feb. 8th.

WALES.

(FROM OUR OWN CORRESPONDENTS.)

Railway Travelling and Infectious Disease.

AT the last meeting of the West of England and South Wales Branch of the Society of Medical Officers of Health Dr. J. Howard-Jones drew attention to the probable connexion between railway travelling and outbreaks of infectious disease the source of which it seemed impossible to trace. Our railway systems, in his opinion, were fruitful means of the transference of infectious diseases from one town to another. He gave instances which had come to his knowledge recently showing that fresh outbreaks could be started in a town, and also that railway travellers were only imperfectly protected from contact with infectious disease. These included the removal of a child who was suffering from scarlet fever by train from a distant health resort to Newport, the medical attendant and the local sanitary authority acquiescing, but no special arrangements being made with the railway company. Another instance was that of a child with measles who was removed by train from another health resort, and in this case also the idea of making special arrangements for the protection of the travelling public was apparently not entertained by anyone. Two instances of children travelling while in the acute stage of whooping-cough were cited, and one of a sailor who went by train to Newport direct from a vessel in a British port on which two outbreaks of small-pox had occurred during the last voyage. The man was ill on arriving at Newport on a Saturday evening and early the following Monday was admitted to the small-pox hospital with a well-developed rash. There can be little doubt that he must have been a source of danger to those with whom he had come in contact from the time he had left his ship. Similar instances were given which had come to the knowledge of other members of the society, including one referred to by Dr. W. G. Savage, that of a man who was found on arrival by train at Cardiff from the north of England to be suffering from plague. There appear to be some difficulties in dealing with railway passengers who are found to be suffering from non-notifiable diseases, but Dr. D. S. Davies stated that he had obtained a conviction before the Bristol justices against a person who had wilfully exposed a child in a public place while it was suffering from measles.

Increased Pauperism in Bridgend.

The great increase which has taken place in recent years in the amount of outdoor pauperism in the Bridgend and Cowbridge union was referred to at the last meeting of the board of guardians by Mr. H. R. Williams, the Poor-law inspector of the Local Government Board for Wales and Monmouthshire. There has been an increase in this form of relief amounting to more than £4000 in four years, although there has been no particular slackness of employment in the district. In his last annual report to the Local Government Board Mr. Williams referred to the evil results of insufficient inquiry and to the need for thorough investigation into all cases for relief. He considered that the closest inquiry and investigation were necessary if the undeserving cases were to be successfully winnowed out. In Newport there is a revisory outdoor relief committee which deals with all outdoor relief cases. In addition to the general investigation which is made by the relieving officer in whose district the applicant for relief resides, a special inquiry is made by another officer. Mr. Williams points out that this strict surveillance, in addition to checking fraudulent applicants, has benefited some deserving cases through increased grants and has had a good effect in increasing the number of those whose relatives would rather contribute directly towards their maintenance than be compelled to do so through the board of guardians.

Health of Cardiff.

The preliminary vital statistics which the medical officer of health, Dr. E. Walford, has reported to the Cardiff health committee show that in 1909 the birth-rate of the city was the same as that which the Registrar-General has recorded for the 76 great towns—25·7 per 1000. The death-rate from all causes was the lowest yet recorded in Cardiff—namely, 13 per 1000, compared with 14·7 in the great towns and with 14·5 in the whole of England and Wales. The rate of infantile mortality in Cardiff was equally satisfactory. It was 103 per 1000 births, compared with 118 in the great towns and with 109 in the whole country. The zymotic death-rate, which was 1·42 in the great towns and 1·12 in England and Wales, was only 0·87 in Cardiff, a rate lower than has yet been recorded.

Brecknockshire Public Health.

At the last meeting of the Brecknock county council a committee was appointed to report to the council on the question of appointing a medical officer of health for the county as now required by the Housing, Town Planning, &c., Act. Mr. D. V. Rees, medical officer of health of the borough of Brecknock, has been acting without salary as county medical officer of health, and Mr. T. P. Thomas, one of the three medical officers of health of the Brecknock rural district, has recently been appointed for six months as school medical officer for the county. The medical inspection of school children in the county has been carried out by local practitioners on varying terms. At the same meeting the difficulties attending the administration of the Midwives Act were discussed. The area of the county is 475,000 acres, or very nearly that of Surrey, and the population is about 65,000, or about one-thirtieth of the population of Surrey. Amongst such a scattered population it has been found almost impossible to induce qualified midwives to take up work in the county owing to the inadequacy of the remuneration where this is dependent solely upon fees. The county council decided to petition Parliament to amend the Midwives Act in such a manner as to make it obligatory upon a midwife to attend any case within her district to which she is called; to enable the local authority to pay a midwife a reasonable salary, and to collect all fees payable for the midwife's services. The counties of Brecknock and Radnor already supply very large populations with water: Radnor to Birmingham, and Brecknock to Cardiff, Swansea, Merthyr Tydvil, and Aberdare. In the next session of Parliament powers will be sought to obtain still further supplies from the latter county for the districts of Mountain Ash in Glamorgan, and Abertillery, Abercarn, and Risca in Monmouthshire.

Feb. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Parish Council and Phthisis Cases.

THE Glasgow parish council has been, and is still, experiencing some difficulty in coming to a definite arrangement with the corporation of Glasgow as to their relative degrees of responsibility in dealing with cases of phthisis occurring in the city. The position of the parish council is that all patients suffering from phthisis who are unfit to provide for themselves on account of their condition have to be taken in and cared for by the parish council, and not only that, but provision has generally also to be made for their wives and children. On the other hand, it is outside the powers of the council to give treatment or do anything to prevent the development of the disease in a man who, though suffering from phthisis, is yet fit for work and able to earn his living. The result is that the parish council has to stand by while the disease is in its rudimentary and curable stage, but when the disease is in its advanced and practically incurable stage then the parish council is expected to make every provision. The parish council thinks that in the early stages it

is the duty of the corporation to take active steps, and with a view to compelling it to do so the matter was put before the Local Government Board to get its opinion before instituting legal proceedings against the corporation. The Board has now communicated with the parish council and advised it not to take the matter into court, although prepared to support it in any other endeavour to secure more satisfactory arrangements for dealing with phthisical cases in Glasgow. It is to be hoped that in view of the modified attitude of the corporation in adopting compulsory notification of phthisis, and arranging for district tuberculosis dispensaries, some of the burden may be lifted off the shoulders of the parish council. An interesting report has been issued to show the number and the cost of patients chargeable to the parish on Nov. 15th last. This shows that in Stobhill Hospital there were 210 phthisical patients, costing 9*s*. 4*d*. per head per week; in the Eastern Hospital 16, at a weekly cost per head of 16*s*. 4*d*.; in Oakbank Hospital 15, at 18*s*. 8*d*. per week; and in Barnhill 27, at 4*s*. 8*d*.; the total annual cost of the patients being £6831 1*s*. 4*d*. The wives and children on the outdoor roll whose husbands or parents were in hospital numbered 119, at a cost of £13 16*s*. 6*d*. per week, or £718 18*s*. per annum, and there were also five males on the outdoor roll in receipt of £85 16*s*. per annum. Including dependants the average cost per head was about 7*s*. 6*d*. per week, while excluding dependants it amounted to about 9*s*. 9*d*. per week.

Royal Hospital for Sick Children, Glasgow.

At the annual meeting of subscribers to the Sick Children's Hospital the report submitted showed that the number of cases treated during the year was 1012, as compared with 1078 in 1908. There were 152 deaths, the percentage of deaths to the total number discharged being 15·72, but excluding 47 children who were so ill when admitted that they died within 48 hours the percentage was reduced to 10·79. The attendances at the dispensary were 51,594, as against 50,776 in the previous year. The ordinary income for the year was £7387 12*s*. 3*d*., and the ordinary expenditure £7627 14*s*. 2*d*. With regard to the new hospital the rebuilding fund now amounts to nearly £94,000, and the directors are appealing for donations to make up the balance of £26,000, which it is estimated will be required to carry out the project. The plans for the new hospital provide for the ultimate erecting of a 300-cot hospital on the excellent site purchased by the directors amounting to fully 10 acres.

The Diphtheria Outbreak in Keith.

The investigations of Dr. R. S. Turner, medical officer of the burgh, on the recent epidemic of diphtheria in Keith showed the following facts: (1) the occurrence of 24 cases of diphtheria in 11 houses, all of which were supplied with milk from the same dairy; (2) no cases notified from houses not supplied by that dairy; (3) four days after the last milk from that dairy was supplied the epidemic ceased; (4) the illness of a milker who milked the cows in the dairy three times a day for some time before the supply was stopped; (5) that this milker was found to be suffering from nasal diphtheria; and (6) that no diphtheritic infection had been traced to the cows.

Sidlaw Sanatorium: Assistance from the Town Council.

The directors of the Dundee Royal Infirmary had the question of the sanatorium again under discussion on Feb. 3rd. The meeting decided to communicate with the town council on the question of the corporation giving assistance to the institution. The letter pointed out that the directors hoped to work the institution with 40 beds at a cost of about £2500. Towards this amount they could themselves account for £1950, which left a deficit of £550. The directors asked the council to assist in meeting this shortage and suggested that the corporation's help would best take the shape of a guarantee extending over the period covered by Mr. Caird's gift of a minimum of seven patients at 30*s*. per week, the patients to be recommended from the Municipal Dispensary, and to be approved by the medical officer to be appointed by the infirmary directors, and also to be under the control and subject to the rules of the directors during treatment. The directors of the infirmary earnestly recommend the proposal to the favourable consideration of the town council in the belief that by agreeing to such a scheme they would earn the approval of the community, who would regret the abandonment of the good work which had been going on for the past ten years at the sanatorium or its diversion to other purposes.

Death of Dr. William Skinner, Ballindalloch.

Dr. William Skinner, Ballindalloch, who was injured on Jan. 21st by being thrown out of his trap, died on Jan. 31st at his residence, Pitchalsh, near Blacksbout. The deceased gentleman was a native of Portmahomack and had a large practice in the district between Grantown and Aberlour. He was of a most genial nature and was highly respected by a wide circle of friends, by whom much sorrow is expressed at his sudden death. He leaves a widow and five children. His brother, Mr. John Skinner, is general inspector of fisheries at Edinburgh. Many people came from long distances to attend the funeral, which took place in Inveravon churchyard on Feb. 3rd, and was one of the largest ever witnessed in the district.

Forres Leanchoil Hospital.

The annual general meeting of the governors of the Forres Leanchoil Hospital was held on Jan. 29th. The annual report was read, showing an increase of funds over last year of £715 10*s*., mainly caused by the legacy of £1000 left by the late Mr. John Munro, Elgin. 108 patients were treated during the year.

Aberdeen Royal Infirmary: Annual Report.

The annual report of the Aberdeen Royal Infirmary for 1909 has just been issued. 3165 in-patients were treated during the year and the average number of days in hospital of each patient was 26. Operations on in-patients amounted to 1795. The death-rate was about 7·7 per cent. of the cases treated. 16,796 out-patients received advice and treatment during the year. The ordinary income was £11,635 3*s*. 7*d*. and the ordinary expenditure £12,948 15*s*. 9*d*., leaving a deficit of £1313 12*s*. 2*d*. The extraordinary income, however, reduces this to £489 8*s*. 11*d*. Voluntary contributions from patients amount to £238 9*s*.

Aberdeen Police Surgeonship.

Five applications were received for the surgeonship to the Aberdeen police, rendered vacant by the resignation of Professor Matthew Hay. The following short list was recommended by the watching committee to the council: Dr. A. T. G. Beveridge, Dr. A. R. Laing, and Dr. D. Rennet.

Aberdeen Trades Council and Medical Appointment.

At a meeting of the executive of the Aberdeen trades council held on Feb. 2nd it was agreed to recommend that the standing orders of the council be suspended at the next meeting in order that the following resolution might be submitted:—

That this council, as representative of the workers of the city, hereby enters its emphatic protest against the action of the school board with regard to the salary agreed to be paid the medical inspector, holding that such a sum is extravagant and ought to be condemned by the ratepayers.

Feb. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Workmen's Compensation: Recorder's High Compliment to Dublin Medical Experts.

THERE were several cases of claims for injuries—including one which resulted in death—before the Recorder of Dublin last week. The widow of a workman sought compensation for the death of her husband, who had been struck on the head by the shaft of a van. He had continued at work for about five months when he developed serious brain trouble which brought about his death. When the deceased became unable to work, his wife claimed for compensation in the Recorder's court, and the award was made that his employers should pay 14*s*. a week. The man was alive at that time; his death took place on Oct. 20th of last year. Dr. J. Byrne Coleman and Mr. S. M. Thompson gave evidence on behalf of the applicant similar to that which had been given at the former hearing of the case, and Dr. G. Burbidge White gave evidence for the employers. The details of the medical evidence were very intricate, and gave scope to ample display of the peculiar skill of the legal advocate as well as of that of the clinical attendant. His lordship, in delivering judgment, said that

it was not necessary to have an assessor in view of the evidence that had been given. He awarded the widow £110 compensation, the respondents to pay the medical fees in connexion with the case. His subsequent remarks, in summarising the general impression which had been made upon him by the various claims, closed with a very high compliment to the integrity, as well as the acumen, of the medical experts of Dublin, of whom he has had a very large and varied experience during his prolonged and extensive practice at the Bar.

Tillystown Drainage.

A sworn inquiry has just been held in the board room of the Loughlinstown workhouse by the chief engineering inspector of the Local Government Board to decide whether or not a system of sewerage from Tillystown was required, and whether the provision of such scheme was within the resources of the council; and also whether, in those general circumstances, the sanitary authority ought to be empowered to approach Parliament in order to obtain compulsory powers for the acquisition of the lands necessary for the purpose of providing a system of sewerage for the locality in question. Also, the inquiry discussed the matter of an application for sanction of a loan of £2000, which would be requisite for the complete carrying out of the scheme in question. An objection had been raised *pro formâ* by the railway company; another came from a resident with reference to the effect of the proposed scheme on bathing; and other objections were made to the place which had been selected for the outflow. The clerk of the council testified that the attention of that body had been repeatedly called to the necessity for a proper drainage system; some who had communicated with them on the subject had expressed their fears of an epidemic being produced by the existing conditions. The local medical officer of health testified that the present drainage of Tillystown village was a very serious menace to the public health. The engineer described the scheme, which included a sewer of 2290 yards in length with purification tanks, the estimated cost being £2105 11*s.* 6*d.* The solicitor to the railway company pointed out that their line would be affected in three places by the scheme, and they were, accordingly, anxious to be protected, but they would not object to a properly constructed drainage system. The result of the inquiry was satisfactory, and the scheme will, it is believed, meet with no further opposition.

Scarlet Fever in Belfast.

Belfast is at present suffering from a widespread epidemic of scarlet fever. Fortunately the type of the disease is mild, but many adults are being attacked, probably owing to the disease not having been very prevalent of late. For the five weeks between Dec. 19th, 1909, and Jan. 22nd, 1910, there were 87 cases notified, as compared with 28 in the corresponding period of 1908–09. The outbreak in Belfast is attributed largely to the excessive number of cases in the surrounding districts from which the infection has been introduced. For instance, at Lisburn, a town seven miles from Belfast, there is an epidemic, and on Feb. 1st Dr. C. J. Clibborn, medical inspector to the Local Government Board, attended the board of guardians by invitation to suggest what should be done. He advised isolation and disinfection, and the non-attendance of children at the schools from any house where the disease prevailed, and that the scholars affected should not be taken back without a medical certificate. At the monthly meeting of the Belfast corporation, held on Feb. 1st, it was reported that the death-rate from all causes had risen to 20·9, that from zymotic diseases was 0·6, and that from chest affections 8·7. The increase in the zymotic death-rate (which amounted to 70 deaths, most being due to whooping-cough) accounted also for the increase in the general death-rate. It is interesting to contrast the two leading cities in Ireland, Dublin and Belfast, as regards infectious disease, as has been done in a recently published table for the weeks ending Jan. 8th to 29th (a period of four weeks). In both cities the total number of notifications were about the same, 194 in Dublin and 193 in Belfast. In Dublin 23 cases of scarlet fever were reported, in Belfast 79; in Dublin 24 cases of enteric fever, in Belfast only 4; in Dublin 16 cases of diphtheria, in Belfast 7; in Dublin 46 cases of erysipelas, in Belfast 23.

The Belfast Hospital for Sick Children.

At the annual meeting of this well-known Belfast charity, held on Feb. 3rd, it was reported that during 1909 there were 648 intern patients, of whom 285 were medical and 350 surgical, and 13 ear and eye cases. In the out-patient department 2514 new medical cases and 1745 new surgical cases attended, as well as 819 ear and eye cases, and 133 dental cases. 344 operations were performed among the intern and 528 among the extern patients. Financially, there had been a saving in the outlay, as the average expenditure on in-patients per day was 1*s.* 11½*d.*, as against 2*s.* 5*d.* the previous year, and the average cost per bed was £52 10*s.* 2*d.*, as against £55 1*s.* 3*d.*

Newtownards Nursing Society.

At the annual meeting of this society the Marchioness of Londonderry, President of the association, who occupied the chair, delivered an interesting address on the work of the society for the past year, in which she referred to the great loss the society and the town of Newtownards had sustained in the sad death, through an accident, of Dr. Thomas McIlroy. Lady Hermione Blackwood, a trained nurse, gave a very valuable lecture on the subject of district nursing. Very hearty votes of thanks were subsequently passed to her and to Lady Londonderry.

Feb. 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

German Surgical Congress, Berlin, 1910.

THE Thirty-ninth Congress of the German Surgical Society will be held in Berlin from March 30th to April 2nd, 1910, in the Langenbeckhaus, Ziegelstrasse, 10/11, Berlin, N. Tickets of membership and other particulars may be obtained from Herr Melzer at this address. Dr. A. Bier is the President for this year, and he requests that announcements of any intended addresses and demonstrations, together with a short abstract of their contents, should be sent to his address Berlin, N.W., 24, Lessingstrasse, I., not later than Feb. 16th. Preparations, apparatus, and instruments intended for exhibition are to be sent, together with an account of their use or purpose, to Herr Melzer. They will be accommodated according to space at disposal and order of application. If there are sufficient participators an excursion free of cost will be made on March 28th to Hohenlychen (Uckermark) to inspect institutions there for tuberculous children and other institutions. This excursion will be made by the invitation of the Red Cross Society, and applications to join it should be made as soon as possible to the Bureau des Volksheilstättenvereins vom Roten Kreuz, Charlottenburg, Berlinerstrasse, 137. The annual dinner will take place on March 31st at 5.30 P.M. at the Savoy Hotel (Friedrichstrasse, 103), Berlin. Tickets for this are obtainable from Herr Melzer.

Centenary of the Hufeland Medical Society.

The Hufeland Medical Society celebrated its hundredth anniversary on Feb. 1st by a special meeting and a dinner on the following day. This eldest of the Berlin medical societies was founded in 1810 by Dr. Hufeland, who was physician to the Royal family and had a very large practice. He was also the author of a number of medical works, of which his "Makrobiotik" is the best known. When the society was founded by him it had only 18 members who used to meet by turns in each other's houses, and the proceedings consisted chiefly in the reporting of remarkable cases which had occurred in the practice of the members. In course of time the number of members became larger and a library and a meeting-room were provided, but the principal subject used to be reports and practical demonstrations. Other medical societies were subsequently founded, among which the Berlin Medical Society soon obtained a prominent position as a centre of modern scientific research, but the Hufeland Society continued to be a meeting-place for those who cultivated the practical side of medicine. Later on in the "eighties" of the past century the amalgamation of the Hufeland Society with the Gesellschaft für Heilkunde and with the Balneological Society increased its somewhat depleted membership, and this upward movement made further progress when it combined with the Demonstrations-Gesellschaft. Since that time the Hufeland Society has risen to a new and more active life, especially

under the presidency of young and energetic men such as Professor Goldscheider and Professor von Hansemann. The society has control of a fund of about 30,000 marks (£1500), a bequest of the late Professor Alvarenga, a Portuguese physician who divided his great wealth among Portuguese and foreign medical societies, the interest of the capital being destined for prizes for scientific work. At the special meeting held on Feb. 1st Professor von Hansemann gave a history of the society and announced that it has elected a number of celebrated German and foreign medical men to be honorary members, the number including Lord Lister. Professor Strauss read a paper on Dr. Hufeland as a Physician, and Professor Brieger on Dr. Hufeland as a Balneologist. The meeting was attended by representatives of the local authorities, the University, and other medical societies, as well as by descendants of the founder of the society.

Priapism Complicating Appendicitis.

Dr. Rosenthal of the Jewish Hospital in Breslau, writing to the *Berliner Klinische Wochenschrift*, reports a case of priapism caused by acute appendicitis. The patient was a man 42 years of age who, 16 days previously to his admission into the above hospital, was suddenly seized with colic in the right abdominal region. An examination made by his medical attendant showed that there were muscular tension and a circumscribed pain in the above region. On the fourth day after a fright erection of the penis suddenly appeared in an extreme degree without sexual desire, but accompanied by slight urinary troubles. Therapeutic measures such as venesection, narcotics, and prolonged bathing proved useless, and the patient was therefore on the twelfth day conveyed to the hospital where a tumour was found in the ileocæcal region. The penis was in a state of extreme erection, having a circumference of 11 centimetres; the distension was, however, confined to the corpora cavernosa. Urine was passed freely but rather frequently. On rectal examination a circumscribed swelling was found near the anterior wall of the rectum. The blood contained an increased number of leucocytes. The patient's temperature was 37·9° C. His condition gradually became better, the erection decreased, and the swelling in the pelvis disappeared. Puncture of the right corpus cavernosum gave exit to blood-stained serum containing detritus, blood pigment, broken-down erythrocytes, and some bacteria coli. Dr. Rosenthal considered that the priapism was caused in this case by thrombosis of the vena profunda penis. The presence of bacterium coli in the distended penis proved that the thrombosis took its origin from the intestines and was caused by the appendicitis.

Feb. 7th.

Medical News.

ROYAL SOCIETY OF MEDICINE.—A special general meeting of the Fellows was held at 20, Hanover-square, London, on Feb. 2nd, with Sir William Church, the President, in the chair. The President put from the chair a resolution that the action of the Council of the society in granting an 80 years' lease of 20, Hanover-square, was approved and confirmed by the meeting. The Council had acquired a site at the corner of Wimpole-street and Henrietta-street, which provides ample space for the present and future needs of the society. To erect on this site a suitable building worthy of the society and capable of bearing comparison with similar institutions in other countries a gift of at least £30,000 was required in addition to what the society could provide by other means. Sir Victor Horsley raised the question whether it was absolutely necessary for the Council to be fortified with the proposed resolution, and Sir John Broadbent asked if provision would be made for the repayment of the society's debentures. Mr. Pearce Gould having said that the repayment had been duly provided for, the resolution was then put to the meeting from the chair and carried. The President then proposed the following resolution:—

That the resolution of the Council altering the by-laws so as to provide that women shall be eligible for the Fellowship of the society be, and is, hereby confirmed.

After a short discussion this was voted for by ballot, and the requisite two-thirds majority necessary for its passing was secured with three votes over. This concluded the meeting.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—At the quarterly examination in Practical Pharmacy held on Jan. 13th, the following candidates were approved:—

David Forbes Borrie, Edinburgh University; Samuel Caplan, St. Mary's Hospital; Reginald Charles Clifford, St. Bartholomew's Hospital; Gerald Cock, Charing Cross Hospital; Jean Crétin, St. Bartholomew's Hospital; John Edgar Davies, Guy's Hospital; John Phillip Henry Davies, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Alfred Evan Lewis Devonald, Cork and St. George's Hospital; Henry William Doll, Guy's Hospital and private study; Evan Percy Edwards, Cambridge and Liverpool Universities; Sidney Ernest Elphick, St. Mary's Hospital; Lennard Game, King's College Hospital; Frank Cane Godding, Guy's Hospital; Harold Harvey, Birmingham University; Arthur Stanley Heale, London Hospital; James Frank Hoare, University College Hospital; Jordan Constantine John, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Albert Lamb, Manchester University; Edward Macmahon Mahon, Guy's Hospital; Henry Wingate Maltby, St. Bartholomew's Hospital; Walter Edgar Masters, London Hospital; Constance Anderson Mortlock-Brown, Royal Free Hospital; Kenneth Montague Nelson, St. Mary's Hospital; William Linnell Partridge, Guy's Hospital; Edward Crosby Peers, Guy's Hospital; Roy Bingley Pullin, St. Bartholomew's Hospital; Cecil Arthur Robinson, St. Mary's Hospital; Archibald Frank Salsbury, Guy's Hospital; Francis Donaldson Saner, B.A. Cantab., Cambridge University and Guy's Hospital; Simon Simons, University College, Cardiff, and private study; Reginald Samuel Sherard Statham, Bristol University; Dudley Macaulay Stone, St. Bartholomew's Hospital; Evelyn Alexander Sutton, Charing Cross Hospital; Donald Sargenson Twigg, Sheffield University; Cyril Underwood Whitney, Westminster Hospital; Owen Elias Williams, Guy's Hospital; Matthew Mai Woods, Cambridge University and St. George's Hospital; and Arthur Kendall Scott Wyborn, Middlesex Hospital.

THE LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A lecture on the Æsthetics of Anæsthetics will be delivered by Dr. Frederic W. Hewitt, M.V.O., consulting anæsthetist to the hospital, on Friday, Feb. 25th, at 3 P.M. The lecture will be delivered in the clinical theatre of the hospital. All students of the University are free to attend. Members of the profession will be admitted on presentation of their address cards.

LITERARY INTELLIGENCE. — Messrs. J. and A. Churchill are about to publish "The Malaria Fevers, Hæmoglobinuric Fever, and the Blood Protozoa of Man," by Captain Charles F. Craig, Medical Corps U.S. Army.—The St. Catherine Press, Limited, of 8, York Buildings, Adelphi, W.C., are about to publish a new volume by Dr. T. N. Kelynack, illustrated and provided with maps, concerning the health and sports stations in Norway and Sweden suited to the requirements of English health and holiday seekers.

EDITH PECHEY PHIPSON POST-GRADUATE SCHOLARSHIP.—The above scholarship, of value £40, will be awarded at the end of March, 1910. It is intended for the assistance of medical women in any sort of post-graduate study, whether medical, surgical, pathological, or scientific. The scholarship will be awarded to the most deserving applicant, preferably to a woman coming from India or going to work in India. Applications for the year 1910 will be laid before the subcommittee of the Pechey Phipson Memorial Fund, and should be addressed to the honorary secretary of the fund, Mrs. E. M. Slater, 33, Chepstow Villas, London, W.

THE MEDICAL INSPECTION OF LONDON SCHOOL CHILDREN.—With regard to the recent proposal to appoint an additional medical officer in the education service of the London County Council, the Education Committee has decided to dispense with one of the present quarter-time posts remunerated at the rate of £150 a year and to appoint its holder, Dr. F. C. Shrubsall, to the new post at a commencing salary of £500, rising by annual increments of £50 to £700 a year. Dr. Shrubsall will continue to do certain work for which £190 per annum has been paid hitherto, so that the extra expenditure involved by the appointment will be only £340 a year.

CEREBRO-SPINAL MENINGITIS IN LONDON.—The London County Council on Feb. 8th decided to enforce the Act requiring the notification of epidemic cerebro-spinal meningitis in the County of London for a further period of twelve months. The Public Health Committee stated that considerable attention had been given to this disease in the principal cities of Europe and America during recent years,

and it was important that the continuity of statistical information for the study of the malady should be preserved. Since the notification of cerebro-spinal fever had been compulsory in London 317 cases had been notified, and detailed information, which might at any time become of importance, had been obtained.

His Majesty the King has granted permission to Dr. George Ogilvie to accept and wear the Insignia of Knight of the Royal Order of Our Lady of the Conceiçdo de Villa Viçosa, conferred on him by the King of Portugal.

THE NOTIFICATION OF PULMONARY TUBERCULOSIS.—The Keynsham (Somerset) district council, at its meeting held on Feb. 1st, decided to adopt the voluntary notification of pulmonary phthisis.

Mr. Godfrey Lowe, M.R.C.S. Eng., L.R.C.P. Lond., was re-elected honorary secretary of the Lincolnshire Automobile Club for the fifth successive year at the annual general meeting of the club held on Feb. 4th.

THE London Association of Accountants has elected Mr. Charles Stevenson of Manchester as President for the current year. Mr. Stevenson, who is the son of a medical man, has conducted the Manchester Medical Agency for many years.

THE BATTERSEA "BROWN DOG" DRINKING FOUNTAIN.—The highways committee of the Battersea borough council has recommended "that steps be taken with a view to the removal of the fountain and its return to the donors." The Council has accepted the recommendation.

THE annual meeting of the After-Care Association for Poor Persons Discharged Recovered from Asylums for the Insane will be held in the library of the Royal College of Physicians of London on Feb. 16th at 9 P.M., under the chairmanship of the President of the College. The secretary of the association is Mr. H. Thornhill Roxby, Church House, Dean's-yard, Westminster, S.W.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced:—Dr. G. A. Y. van der Sande, surgeon in the Dutch Navy. He published many researches on anthropological subjects based on his experiences in New Guinea, for which he was given an honorary Ph.D. by the University of Utrecht. He was 46 years of age.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The meeting of the British Association for the Advancement of Science will take place this year at Sheffield on August 31st. The President is the Rev. Professor T. G. Bonney, D.Sc., LL.D., F.R.S., who is president of the Geological Society. The presidents of the various sections are also announced.

THE INCORPORATED INSTITUTE OF HYGIENE.—A public meeting on "The Promotion of Hygiene and Preservation of Health," convened by the Incorporated Institute of Hygiene, will be held on Monday, Feb. 14th, at 4 P.M., at the Royal United Service Institution, Whitehall. Sir William Bennett, K.C.V.O., will preside, and several addresses will be delivered. Cards of invitation may be had from the secretary of the institute.

THE CARE OF THE FEEBLE-MINDED.—A meeting for the consideration of the question of the care and control of the feeble-minded was held at Taunton on Feb. 2nd under the presidency of the mayor. There was a large gathering and Dr. G. H. Savage gave an interesting address. At the close a resolution was passed urging the need of immediate legislation on the lines recommended in the report of the Royal Commission on the Care and Control of the Feeble-minded.

PLYMOUTH EAR AND THROAT HOSPITAL.—The annual meeting of the friends of the Plymouth Ear and Throat Hospital was held on Feb. 3rd under the presidency of the Mayor. The medical report stated that during 1909 1013 patients had been treated. The financial statement showed a small favourable balance. After some discussion the meeting resolved to adopt the suggestion of the committee and to proceed with a scheme for the rebuilding of the institution. The first section of the undertaking is estimated to cost about £1000.

EAST CORNWALL HOSPITAL, BODMIN.—On Feb. 3rd Viscount Clifden laid the foundation-stone of the new building of the East Cornwall Hospital, Bodmin, in the presence of a large gathering. The estimated cost of the building is £3000, £2500 of which have been already received as a legacy from the late Miss Cole of Lostwithiel.

CLIFTON DISPENSARY.—The annual meeting of the subscribers of the Clifton Dispensary was held on Feb. 1st. The ninety-seventh annual report stated that during 1909 2327 patients had been treated, including 74 midwifery cases. The financial statement showed that a small unfavourable balance remained at the close of the year.

CHINESE PORK.—The re-exportation of more than 5000 carcasses of pigs from China which recently arrived at Greenwich has been ordered by Dr. Herbert Williams, medical officer of the Port of London, on the ground that their backbones had been removed. Pigs' intestines intended for the manufacture of sausage skins and showing evidences of swine fever were included in the same cargo. The Local Government Board has upheld Dr. Williams's action.

THE EXTENSION OF LEICESTER INFIRMARY.—The new nursing home attached to the Leicester Infirmary was opened by Mrs. Fielding-Johnson on Feb. 8th. This completes the building scheme which has been carried out under the auspices of Sir Edward Ward, the chairman of the infirmary board, who has raised £100,000 for the purpose. The buildings, which comprise four storeys, contain 31 bedrooms, and in furnishing and equipping the home the convenience and comfort of the nurses have been the guiding principle. Entirely shut off from the main building is a small isolation block for the purpose of dealing with cases of infection which may occur among the nurses. The total cost of the nursing home has been £22,500.

A FIRE-EXTINGUISHING EXHIBITION.—A remarkable exhibition of fire extinguishing was given last week on the desert "island site" in Kingsway, by Messrs. H. M. Read, Limited, of Finsbury Pavement, with the apparatus which they have produced under the name of X.L.C.R. Many different types of conflagration were kindled, and the operator was successful in extinguishing all of them. The most striking demonstrations were afforded by a wooden flooring covered in burning petrol, which was extinguished in little more than a minute, and by a small lake of tar covered with petroleum, which was allowed to blaze until a column of flame and black smoke reaching as high as the tall buildings in the neighbourhood drove the spectators to a discreet distance. The ease with which this considerable fire was subdued was astonishing. The chief feature of the X.L.C.R. Extinguisher, which depends for its action upon a chemical spray, is the readiness with which it can be applied, and it should certainly be successful in checking any domestic fire if used at a fairly early stage.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASH, EDWIN L., M.D., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Pathologist to the London Temperance Hospital.

BOULTER, WILLIAM ERNEST, L.D.S. Eng., has been appointed Honorary Dental Surgeon to the Queen Victoria Jubilee Convalescent Home, Durdham Down, Bristol.

BROOKS, S. J., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Eyam District of the county of Derby.

CLARK, DONALD, M.B., Ch.B. Glasg., has been appointed Assistant Medical Inspector of Schools and School-children to the Committee on Secondary Education, County of Lanark.

COCKEY, EDMUND PERCIVAL, M.D. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Frome (Somerset) Volunteer Fire Brigade.

DRAPES, THOMAS LAMBERT, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Chepstow (Mon.) Urban and Port Districts.

GRIEVES, JAMES PERCY, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sixth District (Portishead) of the Long Ashton (Somerset) Union.

HARVEY, FRANK MELVILLE, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the French Hospital.

JONES, CHARLES ALBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Penarth (Glamorganshire) Urban District.

LEGAT, ROBERT EDDOWES, M.B., C.M. Edin., has been appointed Public Vaccinator for the Mangotsfield District by the Warmby (Gloucestershire) Board of Guardians.

LITTLEDALE, H. E., M.D., B.S. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Charing District of the county of Kent.

MOORE, S. G., M.D. Vict., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the West Huddersfield District of the county of York.

PAGE, JOHN BASIL, M.B. Lond., has been appointed Honorary Medical Officer to the West Cornwall Infirmary and Dispensary, Penzance.

THOMAS, ROBERT STANLEY, M.D., M.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Exmouth (Devon) Dispensary.

THORNTON, GEORGE LESTOCK, M.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Exmouth (Devon) Dispensary.

WATERS, Captain WALTER JAMES, L.R.C.P., M.R.C.S., R.A.M.C., has taken over the duties of Officer in Medical Charge of Troops at Crownhill, Plymouth.

WATSON, J. N., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wootton Bassett District of the county of Wilts.

WOODWARK, ARTHUR STANLEY, M.D., B.S. Lond., has been appointed an additional Physician for Out-Patients at the Royal Waterloo Hospital for Children and Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Ophthalmic Surgeon.

BRADFORD ROYAL INFIRMARY.—House Physician and Two House Surgeons, all unmarried. Salary in each case £100 per annum, with board, residence, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—Honorary Skiagraphist. Also House Surgeon for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Second House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—Two House Physicians and One House Surgeon (salary each £100 per annum); One Obstetric and Ophthalmic House Surgeon and One Throat, Nose, and Ear House Surgeon (salary each £75 per annum); and One Casualty Officer (salary £50 per annum); with apartments, board, and laundry. Also Honorary Assistant Dental Surgeon. Also Honorary Dental Anæsthetist.

BUENOS AYRES, BRITISH HOSPITAL.—Senior Resident Medical Officer. Also Assistant Resident Medical Officer, both unmarried. Salaries £250 and £200 per annum respectively, with board, lodging, &c.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Salary £60 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—Medical Officer in Charge of the Electrical Department. Salary £26 5s. per annum.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

CAPE OF GOOD HOPE, GREY HOSPITAL, King Williams Town.—Resident House Surgeon, unmarried. Salary at rate of £250 per annum, with quarters and one ration.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrar.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Pathologist. Salary 100 guineas per annum.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum.

DR. BARNARDO'S HOMES: HER MAJESTY'S HOSPITAL, Stepney Causeway, London, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

EASTERN DISPENSARY, Leman-street, E.—Physician-Accoucheur. Salary £25.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon, Ophthalmic Surgeon, and Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

HARROGATE INFIRMARY.—House Surgeon. Salary £75 per annum, with board, lodging, and laundry.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Two Resident Medical Officers. Salary, senior £100, and junior £65 per annum, with board, washing, and apartments. Also Honorary Ophthalmic Surgeon.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, apartments, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Also Junior House Surgeon. Salaries £100 and £60 per annum respectively, with board and residence.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

MANSFIELD, SHERWOOD FOREST SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer (female). Salary £100 per annum, with board, residence, and washing.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—Clinical Assistant (female).

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and laundry.

NORTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £250 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician. Salary at rate of £75 per annum, with residence, board, and laundry.

ROTHERHAM HOSPITAL.—Senior House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Assistant Surgeon.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland-street, W.—Surgical Registrar. Salary £105 per annum. Also Honorary Anæsthetist.

ROYAL NAVAL MEDICAL SERVICE.—Examination for Fifteen Commissions.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer (unmarried), for six months. Salary at rate of £80 per annum, all found.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary £150 per annum.

SHREWSBURY, BOROUGH OF.—Medical Officer of Health. Salary £500 per annum, inclusive.

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 a year, with board and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum.

TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, &c., 73, Welbeck-street, W.—In-Patients' Physician.

WEST HAM INFIRMARY, Whipp's Cross-road, Leytonstone, N.E.—Third Assistant Medical Officer. Salary £120 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry provided.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Rostrevor, in the county of Down.

Births, Marriages, and Deaths.

BIRTHS.

FURNIVALL.—On Jan. 31st, at Wenlock-terrace, York, the wife of Captain C. H. Furnivall, R.A.M.C., of a daughter.

MACKINTOSH.—On Feb. 3rd, at Corner House, Platt's-lane, Hampstead, N.W., the wife of J. Stewart Mackintosh, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MILNE.—On Feb. 6th, at Middleton, Lancs, the wife of John Milne, M.B., of a son.

MARRIAGES.

BALLANCE—BARRETT.—On Feb. 2nd, at Princes-street Congregational Church, Norwich, Hamilton Ashley Ballance, M.S., F.R.C.S., to Ruth, youngest daughter of the Rev. Dr. George Slatyer and Mrs. Barrett.

GRIEVE—CORLETT.—On Feb. 1st, at the Church of St. John, Roundhay, Leeds, John Caldwell Grieve, M.B., Ch.B., to Jessie, daughter of the late Rev. John Corlett and Mrs. Corlett.

MCKENDRICK—WYLIE.—On Feb. 3rd, at St. Paul's, Onslow square, South Kensington, Captain A. G. McKendrick, I.M.S., to Mildred Macleod, younger daughter of Major-General H. Wylie, C.S.I., of Hilltop, Farnham Common, Bucks.

DEATHS.

BORRADAILE.—On Feb. 5th, Major A. L. Borradaile, R.A.M.C., retired, aged 45 years.

CROMPTON.—On Jan. 29th, at Nelson House, Manchester, Harold J. Crompton, M.D., D.P.H., Resident Medical Officer, Prestwich County Asylum, aged 37 years.

DICKSON.—On Feb. 1st, at Stainland, Yorkshire, Avery Wynn Dickson, M.R.C.S., L.R.C.P., aged 35 years.

EVANS.—On Feb. 6th, at Cartref, Dovercourt, Samuel Evans, L.R.C.P. Lond., &c., of Harwich and Dovercourt, aged 63 years.

FORSTER.—On Feb. 3rd, suddenly, at Karonga, Nyasaland, British East Africa, Arthur Frost Forster, M.R.C.S., M.R.C.P. Lond.

GARRARD.—On Jan. 28th, at the Manor House, Thrybergh, William Arthur Garrard, M.R.C.S., aged 59 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE HOSPITAL GAZETTES.

THE students' journals for January are largely occupied, as is usual, with an account of Christmas festivities, and judging from the sprightly tone of most of them the annual days of misrule at the London hospitals seem to have passed off as merrily as is their wont. In *Guy's Hospital Gazette* (Jan. 22nd) Dr. G. Newton Pitt writes concerning tetanus and gives a valuable tabular analysis of the 45 cases of that disease treated at Guy's during the last 20 years. Of these, 11 (or 25 per cent.) recovered, 5 under serum treatment, 4 under surgical treatment without serum, and 2 under simple medical treatment. Out of the 34 fatal cases 19 were treated with serum and the others without. Of the total number 21 per cent. of cases treated with serum recovered, and 28·5 of cases treated without serum recovered. Dr. Pitt considers that there is strong evidence in favour of the prophylactic local injection of serum in the treatment of very dirty wounds or gunshot wounds.——The most interesting contribution to the *London Hospital Gazette* comes from one of the hospital's most distinguished members, Grenfell of Labrador, concerning whose work as medical officer, missioner, and administrator of that desolate coast a volume has recently been published. From the present communication we quote the following passage:—

"Our practice extends from Natasquhan in Canadian Labrador to Cape Chidley in Hudson Bay Straits, and from Bonne Bay on the West Coast of Newfoundland to Cape John on the Atlantic side, a distance of about thirteen hundred miles. I cover most of that region in this boat once a year, and a good part of it more than once. My colleagues do the same over their sections of coast in summer, and with dog trains and sledges in winter, though we are just commencing the use of reindeer, a herd of which we imported from Lapland two years ago, and which now number about six hundred head. To cover more efficiently our coast, and to afford ports within reach of fishermen in distress, we have four small hospitals about two hundred miles apart, and several nursing stations also where 'the nurse is the only doctor for a hundred miles.' Our patients come in every possible way and from every impossible distance, and every medical officer has a motor boat, that he may more efficiently cover his district. Three hospitals and the Mission ship have also now Marconi wireless stations, so that we can cover considerable distances from sea. All the last week the air has been thick with messages from Commander Peary to the New York papers, and we can hear everything going on with our wireless. We have not only his story, but all his other messages as well. Never gossip over the wireless is an excellent rule, for you can't tell who is going to overhear. Every now and then the operator comes in and tells me some amusing piece of news that some one has set going from a power station perhaps a couple of hundred miles away. Our cases range over the whole gamut of surgery and medicine; and as our surgical clinic is derived from the whole of Newfoundland, patients coming even from the capital, we have had to double the size of our southern hospital, which now holds twenty-eight beds. The work, however, is by no means all remedial. Prophylaxis forms a large part of it; and as poverty and consequent bad feeding caused a large part of our troubles, we started to try to improve the earning capacity of the people and induce a cash system of trade instead of a credit system, or truck system, which enslaved all the trappers and fishermen alike. We now have a series of nine coöperative stores, the shares all owned locally by the fishermen. In addition, to increase the wage-earning capacity and steady up the uncertain returns from the harvest of the sea, a number of industries have been started at various points, where our people are engaged in weaving, schooner building, lumber milling, and various other similar efforts."

——In the *Middlesex Hospital Journal* (January) Mr. Charles B. Goulden writes upon the Treatment of Lachrymal Obstruction, and Mr. N. Bishop Harman in praise of games in a paper which closes with the following happy reference to St. Paul's Epistle to Timothy:—

"He uses the language of the games, and writes his own epitaph in the terms of the victorious athlete: 'I have fought the good fight, I have finished my course, I have kept the faith. .....' An Englishman, in the blunt terseness of his speech, would have said, with no less sentiment and no less truth, 'Timothy, my boy, I've played the game!'"

——To *St. Bartholomew's Hospital Journal* (January) Surgeon W. Perceval Yetts, R.N., contributes some notes on Chinese Medicine, and Dr. M. H. Gordon a paper on the Fixation of Complement Reaction.——The editor of the *St. Mary's Hospital Gazette* (January) is to be congratulated upon his impressionistic sketch of an evening at his Medical Society at which Sir Almroth Wright delivered himself of his views upon the Medical Aspects of Woman's Suffrage, and was answered by Mr. G. B. Shaw. The style of part of this report would not disgrace the annals of Toby M.P. himself.——In *St. Thomas's Hospital Gazette* (January) Major E. C. Freeman beats the recruiting drum of the R.A.M.C.'s Territorial Branch, and we trust his appeal will meet with a worthy response. Mr. J. A. Jennings reproduces the following items, amongst others, from an ancient minute-book of the hospital, the service of which seems to have been an exciting occupation in the seventeenth century.

"May 29, 1620.—Row with Mr. Todd, the Minister of St. Thomas's, who declined to give in to Governors.
Tenants not to pay him tithe."

"March 22, 1626?—Mr. Todd, Minister of St. Thomas's, to be turned out by hook or crook."

"April 23, 1632.—Poor to be buried at least 2ft. deep in new Churchyard, as they were buried so shallow that the inhabitants round objected to the smell."

"July 9, 1639.—Mr. Madey, Hospitaller in prison by order of Privy Council."

"July 20, 1660.—Salary of Surgeons reduced to £30 each."

"Aug. 1, 1684.—Patients refusing medicine to be expelled."

"July 7, 1691.—All the Surgeons turned out and the following elected:—Samuel Smith, Simon Ridout, and William Coatsworth."

THE WATKINS SWITCH AND ELECTRIC CURRENT CONTROLLER.

IT is a matter of frequent comment that one important drawback to electric lighting is that the light must always be full on; by existing arrangements it cannot be turned down in the way that gas can by moving the tap. By means of the Watkins switch, however, the electric light can be controlled in the same way as gas and thus an important economy may be realised. By its use lamps can be lowered through seven degrees of illumination, reducing the current on each "stop" until on the lowest one a saving of current amounting to 80 per cent. is effected. The inside of the switch is fitted with a series of frames filled with rods of a special composition laid side by side and held together by screws. The rods vary in length, thickness, shape, and density according to the voltage and controlling capacity of the switch. The "dolly" of the switch is connected with a rocking lever which carries at the inner end spring pistons and a wheel which slides over contacts connected with the frames which retard the current instead of dissipating it by heat in the ordinary resistance wires. The switch has seven stops, enabling the user to obtain a corresponding number of degrees of illumination or power. The switch is available for either the alternating or direct current. A little reflection will show the advantages of this arrangement. It saves, for example, the filament, and especially the delicate metallic filament, from the shock, which is often fatal, of a full current suddenly being turned on. In the case of a hospital ward or the sick-room lights can be reduced to a comfortable point and all glare eliminated, besides which current is saved. In addition to regulating the current for lamps a similar control can be exercised over such appliances as surgical instruments, radiators, fans, and so on. The apparatus is ingenious in its design and appears to us to possess all the advantages which its patentees and manufacturers (Messrs. Adams and Co., of 109, Victoria-street, London, S.W.) claim for it.

HOME-MADE BREAD.

To the Editor of THE LANCET.

SIR,—If your correspondent, Mr. Maurice F. Key, will make the following slight alterations in his methods when bread-making, the result, he will find, is a well aerated bread. The flour should be *dry* and not cold. The best plan is to put it into the earthenware basin and leave in front of the fire for half an hour. It must *not* be *hot*, just warm. For 7 pounds of white flour at least 3 ounces of German yeast should be used, and this should be mixed with lukewarm, not cold, water. An hour in a "brisk" oven is the usual time, unless the loaves are large.

A pleasant change from the square loaf, baked in tins, is to place the dough into long jam pots and bake in these; this produces a long thin loaf like a sandwich loaf, with an excellent top crust.

Here in the North every family make their own bread and bake their own pies, &c. I can quite understand the health of the family has improved. When in practice in the South my great trouble was how to obtain eatable bread. The same applies to Scotland.

I am, Sir, yours faithfully,

Durham, Feb. 5th, 1910. J. D. LEIGH, M.D.

THE FINE ART SOCIETY.

ART is not, as a rule, concerned with sanitary procedures, and even the most advanced realist from over the Channel would hardly find æsthetic pleasure in their pictorial representation. But in the present exhibition at the Fine Art Society, New Bond-street, Mr. Frank Dean shows two impressive pictures of perhaps the oldest of sanitary rites, namely, the disposal of the dead by burning. They are included in a series of water-colours of Northern and Central India, most of which

are full of the light and colour of the East. In strong contrast are the drawings showing the onset of the rains, and especially the pair to which we have alluded, the "Burning Ghats by Night," a weird and solemn scene beneath the deep amethyst-blue of the tropic night, of which the artist has given us the full glamour. But when we consider that the frequently imperfectly incinerated remains of the dead are thrown into the sacred river in which, as another picture shows us, large crowds perform their ceremonial ablutions, the custom becomes less pleasing of contemplation. The medical visitor, however, does not go to picture galleries to recall the business of sanitation but rather to seek relief from it, and this he will find in many other of Mr. Dean's drawings, especially the admirable series showing the play of light and shade on the sand plains. If he prefers scenes with which he is more familiar the beautiful series of water-colours of English and Italian gardens which Mr. G. S. Elgood, R.I., is showing in the neighbouring room will surely afford him artistic refreshment of an unusually delightful order. Mr. Elgood is possessed of an exquisite colour-sense as well as a delicate facility of execution, and he is equally at home in depicting the formal pleasaunce or the midsummer riot of an old cottage garden.

A. F. H.—It must be understood that the medical man is to be absolutely his own professional master. If all the details of practice, scientific and professional, remain in his hands there should be no objection.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—L. S. Dudgeon, C. Bolton): at 8.30 P.M.

Papers:

Dr. H. R. Dean: A Note on Some of the Factors concerned in Serum Diagnosis of Syphilis.

Mr. E. Groves: A Case of Spontaneous Fracture arising from a Condition of Osteitis of Obscure Nature.

Mr. S. G. Shattock and Mr. L. S. Dudgeon: Experiments in Grafting Fœtal Cartilage.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—E. G. Graham Little, H. G. Adamson): at 5 P.M.

Clinical Cases

FRIDAY.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—Reginald Morton, G. Harrison Orton): at 8.30 P.M.

Papers:

Dr. Thurstan Holland: Points in the Diagnosis of Ureteral Calculi.

Dr. Howard Humphris: The Static Wave Current and Other Forms of Static Electricity.

TUESDAY (Feb. 22nd).

MEDICAL SECTION (Hon. Secretaries—A. M. Gossage, A. F. Voelcker): at 5.30 P.M.

Discussion:

On Pericarditis with Effusion as Determined by Operation or Post-mortem Examination (opened by Dr. Samuel West).

Fellows and others wishing to take part in the discussion are requested to send in their names to the Hon. Secretaries as soon as possible.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. A. H. N. Lewers: A Case of Pan-hysterectomy for Carcinoma of the Body of the Uterus, in which an Infiltrated Portion of the Bladder was Removed.—Dr. V. Bonney: Treatment of Uterine Hæmorrhage.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Mr. G. French: Some Points in Middle Ear Suppuration, its Sequelæ and Treatment.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. A. Keith: The Anatomy of the Negro and Negroid Races.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Pernet: Clinique (Skin). 5.15 P.M., Lecture:—Dr. E. C. Bousfield: Recent Developments in Serum Diagnosis.

TUESDAY.—4 P.M., Dr. N. Pitt: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. H. Tubby: Lateral Curvature of the Spine (continued).

WEDNESDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. Carpenter: Heart Disease in Children.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture—Dr. C. Riviere: Conditions which Simulate Phthisis in Children.

FRIDAY.—4 P.M., Dr. W. H. Kelson: Clinique (Ear, Nose and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Robinson: Gynæcology.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Clinical.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. B. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Mr. Edwards: Rectal Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Medical Registrar: Demonstration of Cases in the Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Disease.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eyes. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Demonstration:—Dr. Chappel: Selected Medical Cases.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. H. Pirie)

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. Kenneth Kellie: The Feeding of Infants.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Mr. Turner: Burns.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Wells: Anæmia.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture: Dr. J. Taylor.

FRIDAY.—3.30 P.M., Clinical Lecture;—Mr. L. Paton: Ocular Paralysis.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration:—Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration:—Dr. F. Palmer.

FRIDAY.—2 P.M., Clinical Demonstration:—Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. C. Nourse: External Ear and Labyrinth.

THURSDAY.—4.30 P.M., Clinical Lecture:—Dr. D. McKenzie: When to Operate in Middle Ear Suppuration.

FRIDAY.—3.45 P.M., Lecture:—Mr. C. Nourse: External Ear and Labyrinth.

ST. MARK'S HOSPITAL FOR CANCER AND OTHER DISEASES OF THE RECTUM, City-road, E.C.

MONDAY.—5.30 P.M., Lecture:—Mr. A. Baldwin: Piles.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Acne Vulgaris in its Three Stages: I., Comedo; II., Indurata; III., Necrotica.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1909 were given in THE LANCET of Dec. 25th, 1909.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 9th, 1910.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 3	29·25	S.W.	0·04	49	43	38	40	40	Cloudy
,, 4	29·62	S.W.	...	62	44	34	34	35	Foggy
,, 5	30·03	S.W.	...	49	49	34	37	38	Overcast
,, 6	29·85	S.W.	0·01	59	53	38	49	51	Overcast
,, 7	29·57	S.W.	0·23	60	55	47	51	52	Overcast
,, 8	29·43	W.	...	54	46	42	41	42	Fine
,, 9	30·20	W.	0·05	57	39	34	34	35	Fine

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